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BEFORE THE ARIZONA CORPORATION COMMISSION

RECEIVED

MIKE GLEASON **CHAIRMAN** WILLIAM A. MUNDELL COMMISSIONER

JEFF HATCH-MILLER **COMMISSIONER** 

KRISTIN K. MAYES COMMISSIONER

**GARY PIERCE COMMISSIONER** 

IN THE MATTER OF THE APPLICATION OF

SOUTHWEST GAS CORPORATION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES

DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE

OF THE PROPERTIES OF SOUTHWEST

GAS CORPORATION DEVOTED TO ITS OPERATIONS THROUGHOUT ARIZONA.

2008 MAR 28 A II: 35

AZ CORP COMMISSION DOCKET CONTROL

Arizona Comoration Commission DOCKETED

MAR 28 2008

DOCKETED BY

Docket No. G-01551A-07-0504

NOTICE OF FILING DIRECT TESTIMONY

The Residential Utility Consumer Office ("RUCO") hereby provides notice of filing the Direct Testimony of William A. Rigsby, CRRA, and Rodney L. Moore in the above-referenced matter.

RESPECTFULLY SUBMITTED this 28th day of March 2008.

Daniel W. Pozefsl

**Attorney** 

1 2	AN ORIGINAL AND THIRTEEN COPIES of the foregoing filed this 28 <sup>th</sup> day of March 2008 with:		
3	Docket Control Arizona Corporation Commission		
4 5	1200 West Washington Phoenix, Arizona 85007		
6	COPIES of the foregoing hand delivered/ mailed this 28 <sup>th</sup> day of March 2008 to:		
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### **SOUTHWEST GAS CORPORATION**

**DOCKET NO. G-01551A-07-0504** 

## DIRECT TESTIMONY

**OF** 

**WILLIAM A. RIGSBY, CRRA** 

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

March 28, 2008

Direct Testimony of William A. Rigsby Southwest Gas Corporation Docket No. G-01551A-07-0504

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#### INTRODUCTION

- 2 Q. Please state your name, occupation, and business address.
  - A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please describe your qualifications in the field of utilities regulation and your educational background.

A. I have been involved with utility regulation in Arizona since 1994. During this period of time I have worked as a utilities rate analyst for both the Arizona Corporation Commission ("ACC" or "Commission") and for RUCO. I hold a Bachelor of Science degree in the field of finance from Arizona State University and a Master of Business Administration degree, with an emphasis in accounting, from the University of Phoenix. I have been awarded the professional designation, Certified Rate of Return Analyst ("CRRA") by the Society of Utility and Regulatory Financial Analysts ("SURFA"). The CRRA designation is awarded based upon experience and the successful completion of a written examination. Appendix I, which is attached to this testimony, further describes my educational background and also includes a list of the rate cases and regulatory matters that I have been involved with.

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- 1 | Q. What is the purpose of your testimony?
  - A. The purpose of my testimony is to present recommendations that are based on my analysis of Southwest Gas Corporation's ("SWG" or "Company") application for a permanent rate increase ("Application"). SWG filed the Application with the ACC on August 31, 2007. The Company has chosen the one-year operating period ended April 30, 2007 for the test year in this proceeding.

- Q. Briefly describe SWG.
- A. SWG is a local distribution company ("LDC") based in Las Vegas, NV, and is publicly-traded on the New York Stock Exchange ("NYSE"). The Company is the dominant provider of natural gas distribution services in the state of Arizona. SWG also provides natural gas in the states of California and Nevada. The Company's last rate increase was approved in Decision No. 68487, dated February 23, 2006. In that case, SWG was granted a rate of return of 8.40 percent with a cost of equity capital of 9.50 percent.

- Q. Please explain your role in RUCO's analysis of SWG's Application.
- A. I reviewed SWG's Application and performed a cost of capital analysis to determine a fair rate of return on the Company's invested capital. In addition to my recommended capital structure, my direct testimony will present my recommended costs of common equity, cost of preferred

equity and my recommended cost of debt. The recommendations 1 2 contained in this testimony are based on information obtained from 3 Company responses to data requests, the Company's Application and 4 from market-based research that I conducted during my analysis.

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- Q. Is this your first case involving SWG?
- A. No. I testified on cost of capital issues for RUCO during SWG's prior rate case proceeding during 2005.

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- 10 Q. Were you also responsible for conducting an analysis on the Company's 11 proposed revenue level, rate base and rate design?
  - Α. No. RUCO witnesses Marylee Diaz Cortez, CPA, RUCO's Chief of Accounting and Rates, and Rodney L. Moore will provide testimony on those issues.

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- 16 Q. What areas will you address in your testimony?
- 17 A. I will address the cost of capital issues associated with the case.

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- 19 Q. Please identify the exhibits that you are sponsoring.
- 20 Α. I am sponsoring Schedules WAR-1 through WAR-9.

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#### **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

- Q. Briefly summarize how your cost of capital testimony is organized.
- A. My cost of capital testimony is organized into eight sections. First, the introduction I have just presented and second, the summary of my testimony that I am about to give. Third, I will present the findings of my cost of equity capital analysis, which utilized both the discounted cash flow ("DCF") method, and the capital asset pricing model ("CAPM"). These are the two methods that RUCO and ACC Staff have consistently used for calculating the cost of equity capital in rate case proceedings in the past. and are the methodologies that the ACC has given the most weight to in setting allowed rates of returns for utilities that operate in the Arizona jurisdiction. In this third section I will also provide a brief overview of the current economic climate that SWG is operating in. Fourth, I will discuss my recommended cost of debt. Fifth, I will explain my recommended cost of preferred equity. Sixth, I will compare my recommended capital structure with the Company-proposed capital structure. Seventh, I will explain my weighted cost of capital recommendation and eighth, I will comment on SWG's cost of capital testimony. Schedules WAR-1 through WAR-9 will provide support for my cost of capital analysis.

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Please summarize the recommendations and adjustments that you will 1 Q. 2 address in your testimony. Based on the results of my analysis of SWG, I am making the following 3 A. 4 recommendations: 5 Cost of Equity Capital – I am recommending a 9.88 percent cost of equity 6 7 capital. This 9.88 percent figure is based on the results that I obtained in my cost of equity analysis, which employed both the DCF and CAPM 8 9 methodologies. 10 11 Cost of Debt – I am recommending a 7.96 percent cost of debt. This is 12 based on my review of the costs associated with SWG's various debt 13 instruments. 14 Cost of Preferred Equity – I am recommending that the Commission adopt 15 16 an 8.20 percent cost of preferred equity. This figure represents the 17 effective cost of SWG's \$100 million issue of trust originated preferred 18 securities ("TOPrS"). 19 20 Capital Structure – I am recommending that the Commission adopt the 21 Company-proposed target capital structure of 51.0 percent debt, 4.0

percent preferred equity and 45.0 percent common equity.

Cost of Capital — Based on the results of my recommended capital structure, cost of common equity, and debt analyses, I am recommending an 8.83 percent cost of capital for SWG. This figure represents the weighted cost of my recommended costs of common equity, preferred equity and debt.

Q. Why do you believe that your recommended 8.83 percent cost of capital is an appropriate rate of return for SWG to earn on its invested capital?

A. The 8.83 percent cost of capital figure that I have recommended meets the criteria established in the landmark Supreme Court cases of Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope Natural Gas Company (320 U.S. 391, 1944). Simply stated, these two cases affirmed that a public utility that is efficiently and economically managed is entitled to a return on investment that instills confidence in its financial soundness, allows the utility to attract capital, and also allows the utility to perform its duty to provide service to ratepayers. The rate of return adopted for the utility should also be comparable to a return that investors would expect to receive from investments with similar risk.

The <u>Hope</u> decision allows for the rate of return to cover both the operating expenses and the "capital costs of the business" which includes interest on debt and dividend payment to shareholders. This is predicated on the belief that, in the long run, a company that cannot meet its debt obligations

and provide its shareholders with an adequate rate of return will not continue to supply adequate public utility service to ratepayers.

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Q. Do the <u>Bluefield</u> and <u>Hope</u> decisions indicate that a rate of return sufficient to cover all operating and capital costs is guaranteed?

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A. No. Neither case *guarantees* a rate of return on utility investment. What the <u>Bluefield</u> and <u>Hope</u> decisions *do allow* is for a utility to be provided with the *opportunity* to earn a reasonable rate of return on its investment. That is to say that a utility, such as SWG, is provided with the opportunity to earn an appropriate rate of return if the Company's management exercises good judgment and manages its assets and resources in a

Based on the results of my DCF and CAPM analyses, which ranged from

9.20 percent to 10.83 percent, I am recommending a 9.88 percent cost of

a mean average of the results of my DCF and CAPM analyses, which

utilized a sample of publicly-traded natural gas local distribution

manner that is both prudent and economically efficient.

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#### **COST OF EQUITY CAPITAL**

15 Q. What is your recommended cost of equity capital for SWG?

companies ("LDC").

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equity capital for SWG. My recommended 9.88 percent figure represents

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#### **Discounted Cash Flow (DCF) Method**

- Q. Please explain the DCF method that you used to estimate SWG's cost of equity capital.
- A. The DCF method employs a stock valuation model known as the constant growth valuation model, that bears the name of Dr. Myron J. Gordon (i.e. the Gordon model), the professor of finance who was responsible for its development. Simply stated, the DCF model is based on the premise that the current price of a given share of common stock is determined by the present value of all of the future cash flows that will be generated by that share of common stock. The rate that is used to discount these cash flows back to their present value is often referred to as the investor's cost of capital (i.e. the cost at which an investor is willing to forego other investments in favor of the one that he or she has chosen).

Another way of looking at the investor's cost of capital is to consider it from the standpoint of a company that is offering its shares of stock to the investing public. In order to raise capital, through the sale of common stock, a company must provide a required rate of return on its stock that will attract investors to commit funds to that particular investment. In this respect, the terms "cost of capital" and "investor's required return" are one in the same. For common stock, this required return is a function of the dividend that is paid on the stock. The investor's required rate of return can be expressed as the percentage of the dividend that is paid on the

stock (dividend yield) plus an expected rate of future dividend growth.

This is illustrated in mathematical terms by the following formula:

$$k = \frac{D_1}{P_0} + g$$

where: k = the required return (cost of equity, equity capitalization rate),

$$\frac{D_1}{P_0}$$
 = the dividend yield of a given share of stock calculated by dividing the expected dividend by the current market price of the given share of stock, and

g = the expected rate of future dividend growth

This formula is the basis for the standard growth valuation model that I used to determine SWG's cost of equity capital. It is similar to one of the models used by the Company.

- Q. In determining the rate of future dividend growth for SWG, what assumptions did you make?
- A. There are two primary assumptions regarding dividend growth that must be made when using the DCF method. First, dividends will grow by a constant rate into perpetuity, and second, the dividend payout ratio will remain at a constant rate. Both of these assumptions are predicated on the traditional DCF model's basic underlying assumption that a company's earnings, dividends, book value and share growth all increase at the same

constant rate of growth into infinity. Given these assumptions, if the dividend payout ratio remains constant, so does the earnings retention ratio (the percentage of earnings that are retained by the company as opposed to being paid out in dividends). This being the case, a company's dividend growth can be measured by multiplying its retention ratio (1 - dividend payout ratio) by its book return on equity. This can be stated as  $g = b \times r$ .

- Q. Would you please provide an example that will illustrate the relationship that earnings, the dividend payout ratio and book value have with dividend growth?
- A. RUCO consultant Stephen Hill illustrated this relationship in a Citizens

  Utilities Company 1993 rate case by using a hypothetical utility.<sup>1</sup>

Table I

	Year 1	Year 2	Year 3	Year 4	Year 5	<u>Growth</u>
Book Value	\$10.00	\$10.40	\$10.82	\$11.25	\$11.70	4.00%
Equity Return	10%	10%	10%	10%	10%	N/A
Earnings/Sh.	\$1.00	\$1.04	\$1.082	\$1.125	\$1.170	4.00%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	\$0.60	\$0.624	\$0.649	\$0.675	\$0.702	4.00%

<sup>&</sup>lt;sup>1</sup> Citizens Utilities Company, Arizona Gas Division, Docket No. E-1032-93-111, Prepared Testimony, dated December 10, 1993, p. 25.

Direct Testimony of William A. Rigsby Southwest Gas Corporation Docket No. G-01551A-07-0504

Table I of Mr. Hill's illustration presents data for a five-year period on his hypothetical utility. In Year 1, the utility had a common equity or book value of \$10.00 per share, an investor-expected equity return of ten percent, and a dividend payout ratio of sixty percent. This results in earnings per share of \$1.00 (\$10.00 book value x 10 percent equity return) and a dividend of \$0.60 (\$1.00 earnings/sh. x 0.60 payout ratio) during Year 1. Because forty percent (1 - 0.60 payout ratio) of the utility's earnings are retained as opposed to being paid out to investors, book value increases to \$10.40 in Year 2 of Mr. Hill's illustration. Table I presents the results of this continuing scenario over the remaining five-year period.

The results displayed in Table I demonstrate that under "steady-state" (i.e. constant) conditions, book value, earnings and dividends all grow at the same constant rate. The table further illustrates that the dividend growth rate, as discussed earlier, is a function of (1) the internally generated funds or earnings that are retained by a company to become new equity, and (2) the return that an investor earns on that new equity. The DCF dividend growth rate, expressed as  $g = b \times r$ , is also referred to as the internal or sustainable growth rate.

- Q. If earnings and dividends both grow at the same rate as book value, shouldn't that rate be the sole factor in determining the DCF growth rate?
- A. No. Possible changes in the expected rate of return on either common equity or the dividend payout ratio make earnings and dividend growth by themselves unreliable. This can be seen in the continuation of Mr. Hill's illustration on a hypothetical utility.

Ta	ble	Ш
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	Year 1	Year 2	Year 3	Year 4	Year 5	Growth
Book Value	\$10.00	\$10.40	\$10.82	\$11.47	\$12.158	5.00%
Equity Return	10%	10%	15%	15%	15%	10.67%
Earnings/Sh	\$1.00	\$1.04	\$1.623	\$1.720	\$1.824	16.20%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	\$0.60	\$0.624	\$0.974	\$1.032	\$1.094	16.20%

In the example displayed in Table II, a sustainable growth rate of four percent<sup>2</sup> exists in Year 1 and Year 2 (as in the prior example). In Year 3, Year 4 and Year 5, however, the sustainable growth rate increases to six percent.<sup>3</sup> If the hypothetical utility in Mr. Hill's illustration were expected to earn a fifteen-percent return on common equity on a continuing basis, then a six percent long-term rate of growth would be reasonable. However, the compound growth rates for earnings and dividends,

<sup>&</sup>lt;sup>2</sup> [ ( Year 2 Earnings/Sh – Year 1 Earnings/Sh ) / Year 1 Earnings/Sh ] = [ ( \$1.04 - \$1.00 ) / \$1.00 ] = [ \$0.04 / \$1.00 ] = 4.00%

<sup>&</sup>lt;sup>3</sup> [ ( 1 – Payout Ratio ) x Rate of Return ] = [ ( 1 - 0.60 ) x 15.00% ] = 0.40 x 15.00% = <u>6.00%</u>

displayed in the last column, are 16.20 percent. If this rate were to be used in the DCF model, the utility's return on common equity would be expected to increase by fifty percent every five years, [(15 percent / 10 percent) – 1]. This is clearly an unrealistic expectation.

Although it is not illustrated in Mr. Hill's hypothetical example, a change in only the dividend payout ratio will eventually result in a utility paying out more in dividends than it earns. While it is not uncommon for a utility in the real world to have a dividend payout ratio that exceeds one hundred percent on occasion, it would be unrealistic to expect the practice to continue over a sustained long-term period of time.

- Q. Other than the retention of internally generated funds, as illustrated in Mr. Hill's hypothetical example, are there any other sources of new equity capital that can influence an investor's growth expectations for a given company?
- A. Yes, a company can raise new equity capital externally. The best example of external funding would be the sale of new shares of common stock. This would create additional equity for the issuer and is often the case with utilities that are either in the process of acquiring smaller systems or providing service to rapidly growing areas.

- Q. How does external equity financing influence the growth expectations held by investors?
- A. Rational investors will put their available funds into investments that will either meet or exceed their given cost of capital (i.e. the return earned on their investment). In the case of a utility, the book value of a company's stock usually mirrors the equity portion of its rate base (the utility's earning base). Because regulators allow utilities the opportunity to earn a reasonable rate of return on rate base, an investor would take into consideration the effect that a change in book value would have on the rate of return that he or she would expect the utility to earn. If an investor believes that a utility's book value (i.e. the utility's earning base) will increase, then he or she would expect the return on the utility's common stock to increase. If this positive trend in book value continues over an extended period of time, an investor would have a reasonable expectation for sustained long-term growth.

- Q. Please provide an example of how external financing affects a utility's book value of equity.
- A. As I explained earlier, one way that a utility can increase its equity is by selling new shares of common stock on the open market. If these new shares are purchased at prices that are higher than those shares sold previously, the utility's book value per share will increase in value. This would increase both the earnings base of the utility and the earnings

expectations of investors. However, if new shares sold at a price below the pre-sale book value per share, the after-sale book value per share declines in value. If this downward trend continues over time, investors might view this as a decline in the utility's sustainable growth rate and will have lower expectations regarding growth. Using this same logic, if a new stock issue sells at a price per share that is the same as the pre-sale book value per share, there would be no impact on either the utility's earnings base or investor expectations.

- Q. Please explain how the external component of the DCF growth rate is determined.
- A. In his book, The Cost of Capital to a Public Utility,<sup>4</sup> Dr. Gordon identified a growth rate that includes both expected internal and external financing components. The mathematical expression for Dr. Gordon's growth rate is as follows:

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$$g = (br) + (sv)$$

where: g = DCF expected growth rate,

b = the earnings retention ratio,

r = the return on common equity,

s = the fraction of new common stock sold that accrues to a current shareholder, and

<sup>&</sup>lt;sup>4</sup> Gordon, M.J., <u>The Cost of Capital to a Public Utility</u>, East Lansing, MI: Michigan State University, 1974, pp. 30-33.

1 v = funds raised from the sale of stock as a fraction 2 of existing equity.

and 
$$v = 1 - \left(\frac{BV}{MP}\right)$$

MP

the market price per share of common stock.

- Q. Did you include the effect of external equity financing on long-term growth rate expectations in your analysis of expected dividend growth for the DCF model?
- A. Yes. The external growth rate estimate (sv) is displayed on Page 1 of Schedule WAR-4, where it is added to the internal growth rate estimate (br) to arrive at a final sustainable growth rate estimate.
- Q. Please explain why your calculation of external growth on page 2 of Schedule WAR-4, is the current market-to-book ratio averaged with 1.0 in the equation [(M / B) + 1] / 2.
- A. The market price of a utility's common stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital (one of the desired effects of regulation).

  As a result of this situation, I used [(M / B) + 1] / 2 as opposed to the current market-to-book ratio by itself to represent investor's expectations that, in the future, a given utility will achieve a market-to-book ratio of 1.0.

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- Has the Commission ever adopted a cost of capital estimate that included Q. this assumption?
- In the prior SWG rate case<sup>5</sup>, the Commission adopted the Α. recommendations of ACC Staff's cost of capital witness, Stephen Hill, who I noted earlier in my testimony. In that case, Mr. Hill used the same methods that I have used in arriving at the inputs for the DCF model. His final recommendation for SWG was largely based on the results of his DCF analysis, which incorporated the same valid market-to-book ratio assumption that I have used consistently in the DCF model as a cost of capital witness for RUCO.
- Q. How did you develop your dividend growth rate estimate?
- Α. I analyzed data on a natural gas proxy group consisting of eight natural gas local distribution companies ("LDC").
- Q. Why did you use this methodology as opposed to a direct analysis of SWG?
- Α. One of the problems in performing this type of analysis is that the utility applying for a rate increase is not always a publicly-traded company. Although SWG is publicly-traded on the NYSE, SWG's Arizona operations are not. Because of this situation, I used the aforementioned proxy that includes eight publicly-traded natural gas providers that have similar risk

<sup>&</sup>lt;sup>5</sup> Decision No. 68487, dated February 23, 2006 (Docket No. G-01551A-04-0876)

characteristics to SWG in order to derive a cost of common equity for the Company.

Q. Are there any other advantages to the use of a proxy?

A. Yes. As I noted earlier, the U.S. Supreme Court ruled in the <u>Hope</u> decision that a utility is entitled to earn a rate of return that is commensurate with the returns on investments of other firms with comparable risk. The proxy technique that I have used derives that rate of return. One other advantage to using a sample of companies is that it reduces the possible impact that any undetected biases, anomalies, or measurement errors may have on the DCF growth estimate.

Q. What criteria did you use in selecting the natural gas LDC's included in your proxy for SWG?

A. Each of the natural gas LDC's used in the proxy are publicly-traded on a major stock exchange (all ten trade on the NYSE) and are followed by <a href="#">The Value Line Investment Survey</a> ("Value Line"). Each of the eight LDC's are tracked in Value Line's Natural Gas Utility industry segment. All of the companies in the proxy are engaged in the provision of regulated natural gas distribution services. Attachment A of my testimony contains Value Line's most recent evaluation of the natural gas proxy group that I used for my cost of common equity analysis.

- 1 Q. What companies are included your natural gas proxy?
  - A. The eight natural gas LDC's included in my proxy (and their NYSE ticker symbols) are AGL Resources, Inc. ("ATG"), Atmos Energy Corp. ("ATO"), Laclede Group, Inc. ("LG"), Nicor, Inc. ("GAS"), Northwest Natural Gas Co. ("NWN"), Piedmont Natural Gas Company ("PNY"), South Jersey Industries, Inc. ("SJI"), and WGL Holdings, Inc. ("WGL").
  - Q. Briefly describe the regions of the U.S. served by the eight natural gas LDC's that make up your sample proxy.
  - A. The eight LDC's listed above provide natural gas service to customers in the Middle Atlantic region (i.e. SJI which serves southern New Jersey and WGL which serves the Washington D.C. metro area), the Southeast and South Central portions of the U.S. (i.e. ATG which serves Virginia, southern Tennessee and the Atlanta, Georgia area and PNY which serves customers in North Carolina, South Carolina and Tennessee), the South, deep South and Midwest (i.e. ATO which serves customers in Kentucky, Mississippi, Louisiana, Texas, Colorado and Kansas, GAS which provides service to northern and western Illinois, and LG which serves the St. Louis area), and the Pacific Northwest (i.e. NWN which serves Washington state and Oregon).

Q.

- natural gas LDC's included in your proxy?
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- A. Yes. The Company's cost of capital witness, Mr. Frank Hanley, CRRA, used the same eight LDC's that I have included in my proxy.

Did the Company's witness also perform a similar analysis using the

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6 Q. Please explain your DCF growth rate calculations for the sample

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companies used in your proxy.

A. Schedule WAR-5 provides retention ratios, returns on book equity, internal

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the compounded share growth for each of the utilities included in the

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WAR-5 also includes Value Line's projected 2008, 2009 and 2011-13

values for the retention ratio, equity return, book value per share growth

sample for the historical observation period 2003 to 2007. Schedule

growth rates, book values per share, numbers of shares outstanding, and

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rate, and number of shares outstanding for the LDC's that make up my

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proxy.

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Q. Please describe how you used the information displayed in Schedule WAR-5 to estimate each comparable utility's dividend growth rate.

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A. In explaining my analysis, I will use AGL Resources, Inc., NYSE symbol

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ATG, as an example. The first dividend growth component that I evaluated was the internal growth rate. I used the "b x r" formula (page

- 10) to multiply ATG's earned return on common equity by its earnings
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annual internal growth rates. I used the mean average of this five-year 1 2 period as a benchmark against which I compared the 2008 internal growth 3 rate and projected growth rate trends provided by Value Line. Because an 4 investor is more likely to be influenced by recent growth trends, as 5 opposed to historical averages, the five-year mean noted earlier was used 6 only as a benchmark figure. As shown on Schedule WAR-5. ATG's 7 sustainable internal growth rates experienced an up and down pattern 8 during the 5-year observation period. This resulted in a 5.84% average 9 over the 2003 to 2007 time frame. Value Line's analysts are forecasting a 10 steady pattern of growth through 2013 ranging from 5.00% in 2008 to 11 6.16% by the end of 2013. Value Line has made no changes to its prior 5-12 year earnings projection of 5.50% but has revised its projections for 13 dividend growth and book value downward from 5.50% and 2.50% to 4.00% and 1.50% respectively. Based on these estimates I believe a 14 15 5.75% rate of growth is reasonable for ATG (Schedule WAR-6).

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- Q. Please continue with the external growth rate component portion of your analysis.
- A. Schedule WAR-5 illustrates that ATG's average share growth was 4.32% over the current 2003 2007 observation period. Value Line expects negative growth during the 2008 and 2009 operating periods. After remaining stagnant at 76.00 million shares for the aforementioned periods, outstanding shares are expected to increase to 80.00 million during the

prior estimate of a 0.55 rate of growth for ATG. My final dividend growth rate estimate for ATG is 5.92 percent (5.75 percent internal + 0.17 percent

2011-13 period. Taking this data into consideration, I am standing on my

external) and is shown on Page 1 of Schedule WAR-4.

Q. What is your average dividend growth rate estimate using the DCF model for the LDC's in your sample?

A. Based on the DCF model, my average dividend growth rate estimate is 5.18 percent as displayed on page 1 of Schedule WAR-4.

Q. How does your average dividend growth rate estimates compare to the growth rate data published by Value Line and other analysts?

A. Schedule WAR-6 compares my sustainable growth estimates with the five-year projections of both Zacks (Attachment B) and Value Line. My 5.18 percent estimate is 131 basis points higher than the average projected rate of growth published by Value Line (which is an average of projected EPS, DPS and BVPS), and 8 basis points higher than the 5.10 percent average of projected 5-year EPS of analyst consensus opinions published by Zacks Investment Research, Inc. ("Zacks"). My 5.18 percent estimate is also 44 basis points higher than the 4.74 percent average of Value Line's and Zacks' projected and historical figures on EPS, DPS and BVPS. This indicates that investors are expecting increased performance from LDC's in the future. Based on this comparison, I would still say my

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5.18 percent estimate is a fair representation of the growth projections that are available to the investing public.

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How did you calculate the dividend yields displayed in Schedule WAR-3? Q.

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I used the estimated annual dividends, for the next twelve-month period, Α.

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that appeared in Value Line's March 14, 2008 Ratings and Reports natural

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average price per share of the appropriate utility's common stock. The

gas utility industry update. I then divided those figures by the eight-week

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eight-week average price is based on the daily closing stock prices for

each of the companies in my proxies for the period January 28, 2008 to 10

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- Why did you rely on an eight-week observation period for the closing stock Q.
- 14 prices as opposed to a spot price at a given point in time?
- The eight-week average tends to smooth out random events that may 15 A.
- influence a stocks price on any one particular trading day. For this reason 16
- 17 I typically rely on an eight-week mean average of closing stock prices as
- 18 opposed to a spot price.

March 20, 2008.

- 20 Based on the results of your DCF analysis, what is your cost of equity Q.
- 21 capital estimate for the natural gas utilities included in your sample?
- 22 A. As shown in Schedule WAR-2, the cost of equity capital derived from my
- DCF analysis is 9.73 percent for the LDC's included in my sample. 23

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#### **Capital Asset Pricing Model (CAPM) Method**

- Q. Please explain the theory behind the capital asset pricing model ("CAPM") and why you decided to use it as an equity capital valuation method in this proceeding.
- A. CAPM is a mathematical tool that was developed during the early 1960's by William F. Sharpe<sup>6</sup>, the Timken Professor Emeritus of Finance at Stanford University, who shared the 1990 Nobel Prize in Economics for research that eventually resulted in the CAPM model<sup>7</sup>. CAPM is used to analyze the relationships between rates of return on various assets and risk as measured by beta.<sup>8</sup> In this regard, CAPM can help an investor to determine how much risk is associated with a given investment so that he or she can decide if that investment meets their individual preferences. Finance theory has always held that as the risk associated with a given investment increases, so should the expected rate of return on that investment and vice versa. According to CAPM theory, risk can be classified into two specific forms: nonsystematic or diversifiable risk, and systematic or non-diversifiable risk. While nonsystematic risk can be virtually eliminated through diversification (i.e. by including stocks of

<sup>&</sup>lt;sup>6</sup> William F. Sharpe, "A Simplified Model of Portfolio Analysis," <u>Management Science</u>, Vol. 9, No. 2 (January 1963), pp. 277-93.

<sup>&</sup>lt;sup>7</sup> Dr. Sharpe shared the 1990 Nobel Prize in Economics with Harry M. Markowitz of City University of New York, and the late Merton H. Miller of the University of Chicago.

<sup>&</sup>lt;sup>8</sup> Beta is defined as an index of volatility, or risk, in the return of an asset relative to the return of a market portfolio of assets. It is a measure of systematic or non-diversifiable risk. The returns on a stock with a beta of 1.0 will mirror the returns of the overall stock market. The returns on stocks with betas greater than 1.0 are more volatile or riskier than those of the overall stock market; and if a stock's beta is less than 1.0, its returns are less volatile or riskier than the overall stock market.

various companies in various industries in a portfolio of securities), systematic risk, on the other hand, cannot be eliminated by diversification. Thus, systematic risk is the only risk of importance to investors. Simply stated, the underlying theory behind CAPM states that the expected return on a given investment is the sum of a risk-free rate of return plus a market risk premium that is proportional to the systematic (non-diversifiable risk) associated with that investment. In mathematical terms, the formula is as follows:

$$k = r_f + [ \beta (r_m - r_f) ]$$

where: k = cost of capital of a given security,

r<sub>f</sub> = risk-free rate of return,

B = beta coefficient, a statistical measurement of a security's systematic risk,

r<sub>m</sub> = average market return (e.g. S&P 500), and

 $r_m - r_f = market risk premium.$ 

Q. What security did you use for a risk-free rate of return in your CAPM analysis?

A. I used a six-week average of the yields on a 91-day Treasury Bill ("T-Bill"). The yields can be viewed in Attachment C of my testimony. This six-week average resulted in a risk-free (r<sub>f</sub>) rate of return of 1.65 percent.

<sup>&</sup>lt;sup>9</sup> A six-week average was computed for the current rate using 91-day T-Bill yield quotes listed in Value Line's Selection and Opinion newsletter from February 22, 2008 to March 28, 2008.

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Q. Why did you use the short-term T-Bill rate as opposed to the yield on an intermediate 5-year Treasury note or a long-term 30-year Treasury bond?

This is because a 91-day T-Bill presents the lowest possible total risk to an investor. As citizens and investors, we would like to believe that U.S. Treasury securities (which are backed by the full faith and credit of the United States Government) pose no threat of default no matter what their maturity dates are. However, a comparison of various Treasury instruments will generally reveal that those with longer maturity dates do have slightly higher yields. Treasury yields are comprised of two separate components, 10 a true rate of interest (believed to be approximately 2.00 percent) and an inflationary expectation. When the true rate of interest is subtracted from the total treasury yield, all that remains is the inflationary expectation. Because increased inflation represents a potential capital loss, or risk, to investors, a higher inflationary expectation by itself represents a degree of risk to an investor. Another way of looking at this is from an opportunity cost standpoint. When an investor locks up funds in long-term T-Bonds, compensation must be provided for future investment opportunities foregone. This is often described as maturity or interest rate risk and it can affect an investor adversely if market rates increase before the instrument matures (a rise in interest rates would decrease the value of the debt instrument). As discussed earlier in the DCF portion of my

<sup>&</sup>lt;sup>10</sup> As a general rule of thumb, there are three components that make up a given interest rate or rate of return on a security: the true rate of interest, an inflationary expectation, and a risk premium. The approximate risk premium of a given security can be determined by simply subtracting a 91-day T-Bill rate from the yield on the security.

testimony, this compensation translates into higher rates of returns to the investor. Since a 91-day T-Bill presents the lowest possible total risk to an investor, it more closely meets the definition of a risk-free rate of return and is the more appropriate instrument to use in a CAPM analysis.

- Q. How did you calculate the market risk premium used in your CAPM analysis?
- A. I used both a geometric and an arithmetic mean of the historical returns on the S&P 500 index<sup>11</sup> from 1926 to 2006 as the proxy for the market rate of return  $(r_m)$ . The risk premium  $(r_m r_f)$  that results by using the geometric mean calculation for  $r_m$  is equal to 8.75 percent (10.40% 1.65% = 8.75%). The risk premium that results by using the arithmetic mean calculation for  $r_m$  is 10.65 percent (12.30% 1.65% = 10.65%).
- Q. How did you select the beta coefficients that were used in your CAPM analysis?
- A. The beta coefficients (ß), for the individual utilities used in my proxy, were calculated by Value Line and were current as of March 14, 2008 for the natural gas LDC's that comprise my sample. Value Line calculates its betas by using a regression analysis between weekly percentage changes in the market price of the security being analyzed and weekly percentage changes in the NYSE Composite Index over a five-year period. The betas

<sup>&</sup>lt;sup>11</sup> The historical return information on the S&P 500 index was obtained from Morningstar's SBBI 2007 Yearbook (previously published by Ibbotson Associates).

are then adjusted by Value Line for their long-term tendency to converge toward 1.00. The beta coefficients for the natural gas service providers included in my sample ranged from 0.80 to 1.00 with an average beta of 0.86.

- Q. What are the results of your CAPM analysis?
- A. As shown on pages 1 and 2 of Schedule WAR-7, my CAPM calculation using a geometric mean for r<sub>m</sub> results in an average expected return of 9.20 percent. My calculation using an arithmetic mean results in an average expected return of 10.83 percent.

- Q. Please summarize the results derived under each of the methodologies presented in your testimony.
- A. The following is a summary of the cost of equity capital derived under each methodology used:

17	<u>METHOD</u> DCF	RESULTS
18	DCF	9.73%
19	CAPM	9.20% - 10.83%

Based on these results, my best estimate of an appropriate range for a cost of common equity for SWG is 9.20 percent to 10.83 percent. My final recommendation for SWG is 9.88 percent.

- 1 Q How did you arrive at your recommended 9.88 percent cost of common equity?
  - A. My recommended 9.88 percent cost of common equity is the mean average of my DCF and CAPM results. The calculation can be seen on Page 4 of Schedule WAR-1.
  - Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?
    - A. The 11.25 percent cost of equity capital proposed by the Company is 137 basis points higher than the 9.88 percent cost of equity capital that I am recommending.

#### **Current Economic Environment**

- Q. Please explain why it is necessary to consider the current economic environment when performing a cost of equity capital analysis for a regulated utility.
- A. Consideration of the economic environment is necessary because trends in interest rates, present and projected levels of inflation, and the overall state of the U.S. economy determine the rates of return that investors earn on their invested funds. Each of these factors represent potential risks that must be weighed when estimating the cost of equity capital for a regulated utility and are, most often, the same factors considered by individuals who are also investing in non-regulated entities.

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Q. Please discuss your analysis of the current economic environment.

A. My analysis includes a brief review of the economic events that have occurred since 1990. Schedule WAR-8 displays various economic indicators and other data that I will refer to during this portion of my testimony.

In 1991, as measured by the most recently revised annual change in gross domestic product ("GDP"), the U.S. economy experienced a rate of growth of negative 0.20 percent. This decline in GDP marked the beginning of a mild recession that ended sometime before the end of the first half of 1992. Reacting to this situation, the Federal Reserve Board ("Federal Reserve" or "Fed"), then chaired by noted economist Alan Greenspan, lowered its benchmark federal funds rate<sup>12</sup> in an effort to further loosen monetary constraints - an action that resulted in lower interest rates.

During this same period, the nation's major money center banks followed the Federal Reserve's lead and began lowering their interest rates as well. By the end of the fourth quarter of 1993, the prime rate (the rate charged by banks to their best customers) had dropped to 6.00 percent from a 1990 level of 10.01 percent. In addition, the Federal Reserve's discount rate on loans to its member banks had fallen to 3.00 percent and short-

<sup>&</sup>lt;sup>12</sup> This is the interest rate charged by banks with excess reserves at a Federal Reserve district bank to banks needing overnight loans to meet reserve requirements. The federal funds rate is the most sensitive indicator of the direction of interest rates, since it is set daily by the market, unlike the prime rate and the discount rate, which are periodically changed by banks and by the Federal Reserve Board, respectively.

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term interest rates had declined to levels that had not been seen since 1972.

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Although GDP increased in 1992 and 1993, the Federal Reserve took steps to increase interest rates beginning in February of 1994, in order to keep inflation under control. By the end of 1995, the Federal discount rate had risen to 5.21 percent. Once again, the banking community followed the Federal Reserve's moves. The Fed's strategy, during this period, was to engineer a "soft landing." That is to say that the Federal Reserve wanted to foster a situation in which economic growth would be stabilized without incurring either a prolonged recession or runaway inflation.

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Q. Did the Federal Reserve achieve its goals during this period?

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1992. A change of 4.50 percent and 4.20 percent were recorded at the

end of 1997 and 1998 respectively. Based on daily reports that were presented in the mainstream print and broadcast media during most of

1999, there appeared to be little doubt among both economists and the

public at large that the U.S. was experiencing a period of robust economic

Yes. The Fed's strategy of decreasing interest rates to stimulate the

economy worked. The annual change in GDP began an upward trend in

growth highlighted by low rates of unemployment and inflation. Investors,

who believed that technology stocks and Internet company start-ups (with

little or no history of earnings) had high growth potential, purchased these

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types of issues with enthusiasm. These types of investors, who exhibited what former Chairman Greenspan described as "irrational exuberance," pushed stock prices and market indexes to all time highs from 1997 to 2000.

Q. What has been the state of the economy since 2001?

The U.S. economy entered into a recession near the end of the first quarter of 2001. The bullish trend, which had characterized the last half of the 1990's, had already run its course sometime during the third quarter of 2000. Economic data released since the beginning of 2001 had already been disappointing during the months preceding the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon. Slower growth figures, rising layoffs in the high technology manufacturing sector, and falling equity prices (due to lower earnings expectations) prompted the Fed to begin cutting interest rates as it had done in the early 1990's. The now infamous terrorist attacks on New York City and Washington D.C. marked a defining point in this economic slump and prompted the Federal Reserve to continue its rate cutting actions through December 2001. Prior to the 9/11 attacks, commentators, reporting in both the mainstream financial press and various economic publications including Value Line, believed that the Federal Reserve was cutting rates in the hope of avoiding a recession.

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Despite several intervals during 2002 and 2003 in which the Federal Open Market Committee ("FOMC") decided not to change interest rates – moves which indicated that the worst may be over and that the recession might have bottomed out during the last quarter of 2001 – a lackluster economy persisted. The continuing economic malaise and even fears of possible deflation prompted the FOMC to make a thirteenth rate cut on June 25, 2003. The quarter point cut reduced the federal funds rate to 1.00 percent, the lowest level in 45 years.

Even though some signs of economic strength, mainly attributed to consumer spending, began to crop up during the latter part of 2002 and into 2003, Chairman Greenspan appeared to be concerned with sharp declines in capital spending in the business sector.

During the latter part of 2003, the FOMC went on record as saying that it intended to leave interest rates low "for a considerable period." After its two-day meeting that ended on January 28, 2004, the FOMC announced "that with inflation 'quite low' and plenty of excess capacity in the economy, policy-makers 'can be patient in removing its policy accommodation.<sup>13</sup>"

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<sup>&</sup>lt;sup>13</sup> Wolk, Martin, "Fed holds interest rates steady," <u>MSNBC</u>, January 28, 2004.

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- Q. What actions has the Federal Reserve taken in terms of interest rates since the beginning of 2001?
  - As noted earlier, from January 2001 to June 2003 the Federal Reserve cut interest rates a total of thirteen times. During this period, the federal funds rate fell from 6.50 percent to 1.00 percent. The FOMC reversed this trend on June 29, 2004 and raised the federal funds rate 25 basis points to 1.25 percent. From June 29, 2004 to January 31, 2006, the FOMC raised the federal funds rate thirteen more times to a level of 4.50 percent.
  - The FOMC's January 31, 2006 meeting marked the final appearance of Alan Greenspan, who had presided over the rate setting body for a total of eighteen years. On that same day, Greenspan's successor, Ben Bernanke, the former chairman of the President's Council of Economic Advisers and a former Fed governor under Greenspan from 2002 to 2005, was confirmed by the U.S. Senate to be the new Federal Reserve chief.
  - As expected by Fed watchers, Chairman Bernanke picked up where his predecessor left off and increased the federal funds rate by 25 basis points during each of the next three FOMC meetings for a total of seventeen consecutive rate increases since June 2004, and raising the federal funds rate to a level of 5.25 percent. The Fed's rate increase campaign finally came to a halt at the FOMC meeting held on August 8, 2006, when the FOMC decided not to raise rates.

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- 1 Q. What was the reaction in the financial community to the Fed's decision not to raise interest rates?
  - A. As in the past, banks followed the Fed's lead once again and held the prime rate to a level of 8.25 percent, or 300 basis points higher than the federal funds rate of 5.25 percent established on June 29, 2006.
  - Q. How did analysts view the Fed's actions between January 2001 and August 2006?
  - A. According to an article that appeared in the December 2, 2004 edition of <a href="The Wall Street Journal">The Wall Street Journal</a>, the FOMC's decision to begin raising rates two years ago was viewed as a move to increase rates from emergency lows in order to avoid creating an inflation problem in the future as opposed to slowing down the strengthening economy. In other words, the Fed was trying to head off inflation before it became a problem. During the period following the August 8, 2006 FOMC meeting, the Fed's decisions not to raise rates were viewed as a gamble that a slower U.S. economy would help to cap growing inflationary pressures. In the December 2, 2004 edition of The Wall Street Interest Intere

<sup>&</sup>lt;sup>14</sup> McKinnon, John D. and Greg IP, "Fed Raises Rates by a Quarter Point," <u>The Wall Street Journal</u>, September 22, 2004.

<sup>&</sup>lt;sup>15</sup> Ip, Greg, "Fed Holds Interest Rates Steady As Slowdown Outweighs Inflation," <u>The Wall Street Journal Online Edition</u>, August 8, 2006.

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Q. Was the Fed attempting to engineer another "soft landing", as it did in the mid-nineties, by holding interest rates steady?

A. Yes, however, as pointed out in an August 2006 article in The Wall Street Journal by E.S. Browning, soft landings - like the one that the Fed managed to pull off during the 1994-95 time frame, in which a recession or a bear market were avoided – rarely happen<sup>16</sup>. Since it began increasing the federal funds rate in June 2004, the Fed had assured investors that it would increase rates at a "measured" pace. Many analysts and economists interpreted this language to mean that former Chairman Greenspan would be cautious in increasing interest rates too quickly in order to avoid what is considered to be one of the Fed's few blunders during Greenspan's tenure – a series of increases in 1994 that caught the financial markets by surprise after a long period of low rates. The rapid rise in rates contributed to the bankruptcy of Orange County, California and the Mexican peso crisis<sup>17</sup>. According to Mr. Browning, at the time that his article was published, the hope was that Chairman Bernanke would succeed in slowing the economy "just enough to prevent serious inflation, but not enough to choke off growth." In other words, "a 'Goldilocks economy,' in which growth is not too hot and not too cold."

<sup>7</sup> Associated Press (AP), "Fed begins debating interest rates" USA Today, June 29, 2004.

<sup>&</sup>lt;sup>16</sup> Browning, E.S, "Not Too Fast, Not Too Slow…," <u>The Wall Street Journal Online Edition</u>, August 21, 2006.

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- Q. Was the Fed's attempt to engineer a soft landing successful during the period that followed the August 8, 2006 FOMC meeting?
- A. It would appear so. Articles published in the mainstream financial press were generally upbeat on the economy during that period. An example of this is an article written by Nell Henderson that appeared in the January 30, 2007 edition of <u>The Washington Post</u>. According to Ms. Henderson, "a year into [Fed Chairman] Bernanke's tenure, the [economic] picture has turned considerably brighter. Inflation is falling; unemployment is low; wages are rising; and the economy, despite continued problems in housing, is growing at a brisk clip."<sup>18</sup>

Q. What has been the state of the economy over the past year?

A. Reports in the mainstream financial press during the majority of 2007 reflected the view that the U.S. economy was slowing as a result of a worsening situation in the housing market and higher oil prices. The overall outlook for the economy was one of only moderate growth at best. Also during this period the Fed's key measure of inflation began to exceed the rate setting body's comfort level.

On August 7, 2007, the FOMC decided not to increase or decrease the federal funds rate for the ninth straight time and left its target rate

<sup>&</sup>lt;sup>18</sup> Henderson, Nell, "Bullish on Bernanke" The Washington Post, January 30, 2007.

unchanged at 5.25 percent.<sup>19</sup> At the time of the Fed's decision, analysts speculated that a rate cut over the next several months was unlikely given the Fed's concern that inflation would fail to moderate. However, during this same period, evidence of an even slower economy and a possible recession was beginning to surface. Within days of the Fed's decision to stand pat on rates, a borrowing crises rooted in a deterioration of the market for U.S. subprime mortgages and securities linked to them, forced the Fed to inject \$24 billion in funds (raised through open market operations) into the credit markets.<sup>20</sup> By Friday, August 17, 2007, after a turbulent week on Wall Street, the Fed made the decision to lower its discount rate (i.e. the rate charged on direct loans to banks) by 50 basis points, from 6.25 percent to 5.75 percent, and took steps to encourage banks to borrow from the Fed's discount window in order to provide liquidity to lenders. According to an article that appeared in the August 18, 2007 edition of The Wall Street Journal, <sup>21</sup> the Fed had used all of its tools to restore normalcy to the financial markets. If the markets failed to settle down, the Fed's only weapon left was to cut the Federal Funds rate possibly before the next FOMC meeting scheduled on September 18, 2007.

<sup>&</sup>lt;sup>19</sup> lp, Greg, "Markets Gyrate As Fed Straddles Inflation, Growth" <u>The Wall Street Journal</u>, August 8, 2007

<sup>&</sup>lt;sup>20</sup> Ip, Greg, "Fed Enters Market To Tamp Down Rate" <u>The Wall Street Journal</u>, August 9, 2007

<sup>&</sup>lt;sup>21</sup> Ip, Greg, Robin Sidel and Randall Smith, "Fed Offers Banks Loans Amid Crises" <u>The Wall Street Journal</u>, August 9, 2007

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- Q. Did the Fed cut rates as a result of the subprime mortgage borrowing 2 crises?
  - Yes. At its regularly scheduled meeting on September 18, 2007, the Α. FOMC surprised the investment community and cut both the federal funds rate and the discount rate by 50 basis points (25 basis points more than what was anticipated). This brought the federal funds rate down to a level of 4.75 percent. The Fed's action was seen as an effort to curb the aforementioned slowdown in the economy. Over the course of the next four months, the FOMC reduced the Federal funds rate by a total 175 basis points to a level of 3.00 percent – mainly as a result of concerns that the economy was slipping into a recession. This included a 75 basis point reduction that occurred one week prior to the FOMC's meeting on January 29, 2008.

Q. What recent actions have the Fed taken in regard to interest rates?

A. As of this writing, the Fed has continued to cut rates and announced a 75 basis point reduction in the federal funds rate on March 18, 2008. The Fed's decision to cut rates was based on its belief that, at this point in time, the slowing economy is a greater concern than the current rate of inflation (which the majority of FOMC members believe will moderate

during the present economic slowdown).<sup>22</sup> As a result of the Fed's rate cutting action, the federal funds rate now stands at 2.25 percent.

Q. Putting this all into perspective, how have the Fed's actions since 2000 affected benchmark rates?

A. Despite the increases (prior to June 2006) by the FOMC, interest rates and yields on U.S. Treasury instruments are for the most part still at historically low levels. The Fed's actions have also had the overall effect of reducing the cost of many types of business and consumer loans. As can be seen in Schedule WAR-8, the previously mentioned federal discount rate (the rate charged to the Fed's member banks), has fallen to 2.50 percent from 5.73 percent in 2000.

- Q. What has been the trend in other leading interest rates over the last year?
- A. As of March 28, 2008, the leading interest rates have all dropped from the levels that existed a year ago (Attachment C). The prime rate has fallen from 8.25 percent a year ago to 5.25 percent. The benchmark federal funds rate, just discussed, has decreased from 5.25 percent, in March 2007, to a level of 2.25 percent (as a result of the March 18, rate cut discussed above). The yields on several maturities of U.S. Treasury instruments have also decreased over the past year. A previous trend,

<sup>&</sup>lt;sup>22</sup> Ip, Greg, "Credit Worries Ease as Fed Cuts, Hints at More Relief" <u>The Wall Street Journal</u>, March 19, 2008

described by former Chairman Greenspan as a "conundrum"<sup>23</sup>, in which long-term rates fell as short-term rates increased, thus creating a somewhat inverted yield curve that existed as late as June 2007, appears to have ended and a more traditional yield curve (one where yields increase as maturity dates lengthen) presently exists (Attachment C). The 91-day T-bill rate, used in my CAPM analysis, has fallen from 5.03 percent, in March 2007, to 0.56 percent as of March 19, 2008. The 1-Year Treasury constant maturity rate also decreased from 4.94 percent over the past year to 1.40 percent. Again, for the most part, these current yields are considerably lower than corresponding yields that existed during the early nineties and at the beginning of the current decade (as can be seen on Schedule WAR-8).

Q. What is the current outlook for interest rates, inflation, and the economy?

A. As a result of the FOMC's March 18, 2008 rate cutting action, the federal funds rate of 2.25 percent is already below <a href="The Wall Street Journal's">The Wall Street Journal's</a> February 2008 Economic Forecasting Survey's prediction that the rate would drop to 2.64 percent by December 2008. The change in the consumer price index, a key measure of inflation, is also expected to fall from the December 2007 level of 4.10 percent to 2.30 percent by December 2008.

<sup>&</sup>lt;sup>23</sup> Wolk, Martin, "Greenspan wrestling with rate 'conundrum'," MSNBC, June 8, 2005.

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Value Line's analysts have been decidedly pessimistic in their outlook on the economy recently and had this to say in their Economic and Stock Market Commentary that appeared in the March 28, 2008 edition of Value Line's Selection and Opinion publication:

The evidence that we are in a recession continues to build. Such indicators include declining nonfarm payrolls, sluggish manufacturing and nonmanufacturing data, a falloff in March retail sales, and additional softness in industrial production.

The economic problems, which began with the housing market, are spreading and could well spread further in the months to come. Not only are housing's woes intensifying and weakness evolving in other key markets, but businesses are unlikely to increase their spending on plant and equipment given the slowdown on the consumer front. We also think nonresidential construction, which gave a boost to the economy in 2007, will ease this year due to the recent tightening in credit conditions. The spreading construction slump, in the meantime, is likely to increase the unemployment rolls still further.

Despite their less than favorable outlook on the economy, Value Line's analysts believe that the Federal Reserve is on the right track as also stated in the March 28, 2008 edition of Value Line's Selection and Opinion publication:

Effective action by the Federal Reserve should lessen the severity of an economic setback. The Fed has not only been reducing interest rates aggressively, taking the federal funds rate (the overnight lending rate between banks) down from 5.25% to 2.25% since last September, but it has extended its lending program to provide liquidity to cashstrapped companies. We think other innovative moves to alleviate the strains caused by the tightening in the credit markets will be taken by the Fed in the weeks to come to lessen the severity of any economic downturn and to hopefully boost flagging investor confidence.

- How has the current economic environment of lower interest rates affected Q. various regulated utility industries as a whole?
- A. Value Line analyst Nils C. Van Liew took note of the environment of low interest rates that existed in the early part of 2007. In Value Line's Electric

Utility (East) Industry update dated March 2, 2007, Mr. Van Liew had this to sav:

Low Interest Rates. Several factors are, no doubt, driving the electric utilities' strong share-price performance. Perhaps most important is a benign interest-rate environment. Utilities frequently tap the credit markets to fund their operations. (Low interest rates mean they can cost effectively build new power plants and maintain existing ones.) "Cheap money" also tends to drive economic expansion, thereby increasing electricity demand. That said, interest rates should remain relatively low, though the likelihood that the Federal Reserve eases (monetary) policy is small, given persistent inflation concerns.

While Mr. Van Liew's views appeared in Value Line's Electric Utility Industry update. I believe his comments hold true for all regulated utilities including the natural gas distribution segment. Given the fact that interest rates are even lower now than they were at the time of Mr. Van Liew's writing, and utility bond rates are currently lower than their 2007 averages (Schedule WAR 8), I believe that his views are still valid. In fact, my opinions are supported by Gabe Moreen, an analyst for Merrill Lynch, who had this to say in his February 21, 2008 report<sup>24</sup> on SWG:

Falling interest rates bode well for utilities The Fed's recent interest rate cuts buoyed our natural gas utility index stocks, which had underperformed during recent credit market turmoil. The liquidity squeeze elevated concerns over higher capital costs for this capitalintensive industry, but credit market concerns do not fundamentally threaten the sector, in our view. Most gas utilities in our index have investment grade credit and, were the cost of debt to rise, could recover higher capital costs via rate cases. The interest rate cut also boosted gas utility stocks as 10-year Treasury prices rose and yields fell. 10-year Treasury yields provide a common benchmark for utility valuation; like Treasury bills, utility stocks typically offer steady income and are often valued by yield differential above Treasury bills. The dividend yield-Treasury yield differential has recently shrunk to 85 [basis points], just shy of the long-term average 86 [basis point] differential. Treasury yields are relatively low at 3.9%, and we expect this low differential to help sustain gas utility stocks at their high valuations in the near term. For

<sup>&</sup>lt;sup>24</sup> Provided in the Company's response to ACC Staff data request STF-2-8 dated March 6, 2008.

Merrill Lynch's current interest rate outlook, please see The Market Economist. 15 February 2008.

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- Q. How does the average dividend yield of your sample LDC stocks compare to the average dividend yield for all of the LDC stocks followed by Value Line?
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- A. As can be seen in Schedule WAR-3, my sample LDC's have an average dividend yield of 4.55 percent which falls between Value Line's 3.60 percent 2006 average dividend yield for the natural gas industry and their 2011-13 projection of 4.60 percent (Attachment A).
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- Q. How has the slowdown in housing construction impacted SWG?
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14 a positive effect on SWG. This was reflected in several security analysts'

It would appear the housing slowdown discussed above is actually having

reports that the Company provided in response to ACC Staff data request

- 15
- 16 STF-2-8. Analysts for North American Equity Research, a subsidiary of
- 17
- J.P. Morgan Chase, had this to say: 18

Slowing Customer Growth; Reduced Equity Issuance Need Southwest Gas highlighted a decline in its customer growth rate to below 3% in 2007, a decline attributable to problems in the housing market. Specifically, unoccupied homes and associated inactive meters accounted for a significant portion of the year-over-year decline. The large inventory of existing homes is expected to place downward pressure on new construction. As such, for the next two years the company anticipates growth in the range of 1.5-3% until the housing market returns to more normal levels. A more normalized growth rate reduces capital expenditures, mitigates cost creep associated with serving the growing demand and thereby should reduce the impact of regulatory lag caused in part by rate making in AZ which utilizes a historical test-year. On a related issue, we note that Southwest Gas has placed meters in approximately 20,000-30,000 homes that are currently vacant. The company highlighted that once these houses are occupied and gas meters turned on, Southwest Gas will begin bringing on new customers at no cost. As the capital for these meters are already included in the company's AZ rate case, these new customer additions would be incremental to earnings. Along with the decline in the company's customer growth forecast, Southwest Gas has revised its 2008-2010 capital expenditure forecast as disclosed in the 2007 10K. SWX forecasts capex of \$850 million with \$70-80 million equity financed. That is a reduction from the prior three-year outlook of \$880 million and \$100-125 million of equity financing. The reduction in their equity financing needs equates to about 2.8% of outstanding shares and is a positive development for shareholders.

Analysts at Citigroup Global Markets, Inc. had this to say:

What's Wrong? - We believe the housing downturn in AZ, NV and CA has led some to believe that SWX will be negatively impacted by lower customer growth (6% previously down to 3% on the high-end). We think differently. First, we had always assumed that customer growth would trend back to normal levels. Second, during times of high customer growth, SWX struggled to earn its cost of capital because of historical test years in its rate cases (EVA negative). We estimate a one to two year lull in housing growth will enable SWX to push ROR above its costs of capital creating positive EVA.

Based on the above analysts' outlooks, it is reasonable to say that the slowdown in the housing sector is actually having a positive effect on SWG, given the fact that the Company will not have to devote higher levels of internally generated funds on capital expenditures, thus providing SWG with the opportunity to build on its existing equity position and possibly increase dividends.

Q. After weighing the economic information that you've just discussed, do you believe that the 9.88 percent cost of equity capital that you have estimated is reasonable for SWG?

A. I believe that my recommended 9.88 percent cost of equity will provide SWG with a reasonable rate of return on the Company's invested capital when economic data on interest rates (that are low by historical

standards), the current lull in growth in new housing construction, and the Fed's ability to keep inflation in check are all taken into consideration. As I noted earlier, the <u>Hope</u> decision determined that a utility is entitled to earn a rate of return that is commensurate with the returns it would make on other investments with comparable risk. I believe that my cost of equity analysis, which is an average of the results of both the DCF and CAPM models, has produced such a return.

### **COST OF DEBT**

- Q. Have you reviewed SWG's testimony on the Company-proposed cost of debt?
- A. Yes. I have reviewed the testimony provided by SWG witness Theodore
   K. Wood who presents the Company's capital structure, cost of debt and cost of preferred equity proposals.

- Q. Briefly explain how SWG calculated the Company-proposed cost of debt.
- A. The Company-proposed cost of debt is the weighted cost of the SWG's fixed rate and variable rate debt instruments excluding industrial development revenue bonds ("IDRB") that were issued to finance specific assets located in Clark County, Nevada and the City of Big Bear, California.

- 1 Q. Have you adopted the Company-proposed cost of debt?
  - A. Yes. The weighted cost of the Company's debt was also used in RUCO witness Rodney L. Moore's synchronized interest calculation which produced the interest deduction reflected in RUCO's recommended level of income tax expense.

# **COST OF PREFERRED EQUITY**

- Q. Have you reviewed SWG's testimony on the Company-proposed cost of preferred equity?
- A. Yes. SWG witness Wood presented testimony on the Company-proposed 8.20 percent embedded cost of preferred equity, which reflects the effective cost of the Company's \$100 million in trust originated preferred securities ("TOPrS").
- Q. Have you accepted the Company-proposed 8.20 percent cost of preferred equity?
- 17 A. Yes I have.
  - Q. Is the weighted cost of SWG's preferred equity also reflected in RUCO's recommended level of income tax expense?
  - A. Yes it is. Ordinarily this type of regulatory accounting treatment would not be considered for the dividends of preferred equity instruments. However, as explained on pages 34 and 35 of SWG witness Theodore K. Wood, the

Direct Testimony of William A. Rigsby Southwest Gas Corporation Docket No. G-01551A-07-0504

dividends of the TOPrS are tax-deductible as a result of the trust structure used by the Company to issue the securities. Given the tax-deductible nature of the dividends, it is only logical that their weighted cost be included in the synchronized interest calculation that produces an appropriate interest expense deduction that is used to compute a final recommended level of income tax expense.

### **CAPITAL STRUCTURE**

- Q. Have you reviewed SWG's testimony regarding the Company's proposed capital structure?
- A. Yes.

- Q. What was SWG's actual capital structure during the test year?
- A. According to the direct testimony of SWG witness Wood (pages 10 and 11), the Company's actual capital structure during the test year was comprised of 52.70 percent debt, 4.40 percent preferred equity, and 42.90 percent common equity.

Direct Testimony of William A. Rigsby Southwest Gas Corporation
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- Q. How does the Company's actual capital structure compare to the average capital structure of the eight LDC's in your cost of equity capital proxy group?
- A. As can be seen in Schedule WAR-9, the average capital structure of the eight LDC's included in my sample was comprised of 45.90 percent debt, 0.20 percent preferred equity, and 53.90 percent common equity. My analysis shows that the equity positions of the LDC's in my sample have increased slightly since SWG's cost of capital consultant, Mr. Hanley, conducted his analysis (as seen on page 11 of Mr. Wood's direct testimony).

Q. Is SWG's capital structure in line with industry averages?

A. No. As I explained above, SWG's actual capital structure is heavier in debt and preferred equity than the natural gas utilities included in my sample (Schedule WAR-9). Thus, the cost of equity derived in my DCF analysis is applicable to companies that are not as leveraged and, theoretically speaking not as risky than a utility with a level of debt similar to SWG's. In the case of a publicly-traded company, such as those included in my proxy, a company with SWG's level of debt would be perceived as having a higher level of financial risk and would therefore also have a higher expected return on common equity.

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- 1 Q. Please describe the Company's proposed capital structure.
- 2 A. The Company is proposing a target capital structure comprised of 51.00
- percent debt, 4.00 percent preferred equity, and 45.00 percent common
- 4 equity.

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- Q. What capital structure are you recommending for SWG?
- A. I am recommending the same capital structure being proposed by SWG.

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- Q. Have you made an adjustment to your cost of equity estimate based on
- the perception of higher financial risk that you explained earlier?
- 11 A. No, I have not. The target (i.e. hypothetical) capital structure that I am
- 12 recommending will provide SWG with additional operating income and
- cash flows that will offset any perceived financial risk.

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- Q. Please explain.
- 16 A. The higher level of equity in my recommended capital structure will
- provide the Company with a higher overall weighted cost of equity (i.e.
- 18 8.83 percent as opposed to 8.80 percent) and will likewise provide SWG
- with a higher level of operating income. The higher level of equity in the
- 20 target capital structure also results in a lower weighted cost of debt which
- 21 in turn produces a lower synchronized interest deduction. This has the
- 22 overall effect of providing SWG with a higher level of income tax expense.
- 23 This higher level of income tax expense results in additional cash flow to

SWG because the Company's actual income tax liability will be lower (as a result of the higher actual interest expense deduction that the Company is entitled to). For these reasons I have made the decision not to make any adjustment to my recommended cost of equity which was based on the results of my DCF and CAPM analyses. In summary, I believe that my recommended target capital structure will provide SWG with a return on invested capital that will compensate the Company's shareholders for any perceived financial risk that they may face.

# **WEIGHTED COST OF CAPITAL**

- Q. How does the Company's proposed weighted cost of capital compare with your recommendation?
- A. The Company has proposed a weighted cost of capital of 9.45 percent. This composite figure is the result of a weighted average of SWG's proposed 7.96 percent cost of debt, 8.20 percent cost of preferred equity, and 11.25 percent cost of equity capital. The Company-proposed 9.45 percent weighted cost of capital is 62 basis points higher than the 8.83 percent weighted cost of capital that I am recommending.

### COMMENTS ON SOUTHWEST GAS CORPORATION'S COST OF EQUITY

### CAPITAL TESTIMONY

- Q. Please describe SWG's cost of equity capital testimony.
- A. As noted earlier in my testimony, SWG's cost of capital testimony was prepared by the Company's cost of equity consultant Mr. Frank J. Hanley, CRRA. Mr. Hanley's testimony presents the results of his cost of common equity analysis, which used the DCF, CAPM, risk premium, and comparable earnings methodologies. Mr. Hanley believes that the Company is entitled to an 11.25 percent cost of common equity based on the results of his cost of capital analysis.

Q. Please compare the way you conducted your DCF analysis with the way that Mr. Hanley conducted his.

A. Mr. Hanley conducted a DCF analysis using a similar single-stage constant growth model as I did. As I explained earlier in my testimony, Mr. Hanley also conducted his analysis using a proxy group comprised of the same eight natural gas utilities that were included in my sample. In addition to the aforementioned proxy group, Mr. Hanley also treated SWG

as a stand-alone company in his analysis.

- Q. How did Mr. Hanley determine the dividend yield component in his DCF model?
- A. For the P<sub>0</sub> portion of the DCF formula, Mr. Hanley averaged spot prices that occurred on June 25, 2007 with average high and low prices that occurred during the months of May 2007 and April 2007 to arrive at initial average dividend yields of 3.94 percent, 3.67 percent, and 3.67 percent respectively for his proxy group of eight LDC's. After obtaining his initial dividend yields, he averages the results to arrive at an unadjusted average dividend yield of 3.76 percent. Mr. Hanley then adds a dividend growth component, which averages 0.08 percent for his sample LDC's, to arrive at a final adjusted average dividend yield of 3.84 percent. His final adjusted dividend yield is 71 basis points lower than the average 4.55 percent dividend yield that I obtained using an average of closing stock prices during a more recent 8-week period (Schedule WAR-3).
- Q. How did Mr. Hanley obtain his final growth (i.e. g) estimate in his DCF analysis?
- A. Mr. Hanley averaged the long-term (i.e. 2010-12) June 15, 2007 earnings per share projections of Value Line analysts and the June 23, 2007 five-year earnings per share projections of Thompson FN/First Call analysts to arrive at an average DCF growth rate of 4.51 percent for his proxy group of eight LDC's. His final average DCF growth estimate result of 4.51

Docket No. G-01551A-07-0504 percent is 67 basis points lower than my growth rate estimate of 5.18 1 2 percent. 3 4 Q. What is the average DCF result for the average dividend yields and 5 growth estimates that were obtained by Mr. Hanley? 6 Mr. Hanley's final average DCF cost of equity estimate, using the inputs Α. 7 that I have just described, is 8.35 percent or 138 basis points lower than my DCF estimate of 9.73 percent. Mr. Hanley's final DCF estimate of 9.92 8 percent is 19 basis points higher than my final DCF estimate of 9.73 9 10 percent. 11 How did Mr. Hanley obtain his final DCF cost of equity estimate of 9.92 12 Q. 13 percent when the average of his LDC sample produced an estimate of 14 8.35 percent? 15 To arrive at his final DCF cost estimates, Mr. Hanley ignored any results Α. 16 that were lower than 9.60 percent, which he states was the lowest rate 17 awarded to a gas distribution utility during the twelve month period ended 18 March 31, 2007. This methodology had the effect of eliminating the 19 results of six of the eight LDC's in his proxy group. 20 21 22

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- No, I do not. Even though my final DCF estimate falls above the 9.60 A.
  - percent threshold established by Mr. Hanley I still don't agree with his
    - methodology. By setting his 9.60 percent threshold, Mr. Hanley is in effect

Do you agree with Mr. Hanley's method which eliminates any results

- refusing to consider the fact that the market has priced the returns of
- LDC's at a lower level than what regulators have adopted and that the
- investment community is willing to accept lower rates of returns.
- Q. Please compare the results of your CAPM analysis with the results of Mr.
  - Hanley's CAPM analysis.
- Mr. Hanley performed two CAPM analyses, one using the traditional A.
- CAPM model which I used (i.e. the Sharpe/Lintner version expressed as k
  - =  $r_f$  + [ R (  $r_m$   $r_f$  )]) and a second using the empirical ("ECAPM") version of
  - the model which assumes that the risk-free rate of return used in the
    - traditional model is understated. Typically the ECAPM uses unadjusted
      - betas that are lower than the adjusted Value Line betas that I used in my
      - CAPM analysis (a point on which Mr. Hanley and I disagree).
    - Q. Why didn't you use the ECAPM version in your CAPM analysis?
    - A. I did not use this version mainly because the ECAPM has been given little
  - to no weight by the ACC in prior Commission proceedings (most notably in

a number of Arizona-American Water Company filings where the model was employed by a Boston consulting firm known as the Brattle Group).

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Q. What were the differences between your CAPM analysis and Mr. Hanley's CAPM analysis?

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Mr. Hanley performed his analysis using the same proxy that he used in his DCF analyses and also treated SWG as a stand-alone entity. His CAPM analysis produced an average expected return, or k, of 10.35 percent for his group of eight LDC's. As in his DCF analysis, Mr. Hanley simply rejected any results lower than 9.60 percent. Thus, his final CAPM estimate of 10.49 percent is higher than the aforementioned average of all eight of the LDC's used in both of our samples. His final CAPM estimate of 10.49 percent is 129 basis points higher than my 9.20 percent CAPM analysis result using a geometric mean, and 34 basis points lower than my 10.83 percent CAPM analysis result using an arithmetic mean. His standalone result for SWG is 10.17 percent. Mr. Hanley's ECAPM analysis produced an average expected return of 10.51 percent for his group of eight LDC's (the results for all eight of his sample companies exceeded his 9.60 percent threshold). His final ECAPM estimate of 10.51 percent results is 131 basis points higher than my 9.20 percent CAPM analysis result using a geometric mean, and 31 basis points lower than my 10.83 percent CAPM analysis result using an arithmetic mean. His ECAPM result for SWG as a stand-alone entity is 10.38 percent.

- Q. What beta coefficient (ß) did you use in your CAPM model and what beta coefficient did Mr. Hanley's use in his CAPM analysis?
  - A. I used a beta coefficient of 0.86, which is an average of Value Line's adjusted betas for the eight LDC's included in my proxy. Mr. Hanley used an average beta coefficient of 0.88 for his group of eight LDC's. The lower average beta used in my analysis reflects the fact that the betas for several of the LDC's used in our samples have fallen (indicating lower risk) since Mr. Hanley conducted his analysis. Technically, Mr. Hanley's ECAPM model overstates the expected return because of his use of an adjusted beta in a model that contains an upward adjustment for the risk-free rate of return.
  - Q. Please compare the risk free rate of return (r<sub>f</sub>) proxies used in both your and Mr. Hanley CAPM analyses.
  - A. As I explained earlier in my testimony (page 25), I used a six-week average on a 91-day T-Bill rate. This resulted in a risk-free rate of return of 1.65 percent. Mr. Hanley on the other hand, used an average of economist's projections, reported in <u>Blue Chip Financial Forecasts</u> dated July 1, 2007, on the yields of 30-year U.S. Treasury Notes for the six quarters ending with the final calendar quarter of 2008. This resulted in a higher risk-free rate of return of 5.33 percent. The difference between the two average yields is 368 basis points.

- Q. What is the difference between your market risk premium and the market
   risk premium used by Mr. Hanley?
  - A. Mr. Hanley derived his 5.69 percent market risk premium figure by averaging Value Line and Morningstar data. The 5.69 percent market risk premium used by Mr. Hanley is 306 basis points lower than my 8.75 percent market risk premium, using a geometric mean, and is 496 basis points lower than my 10.65 percent market risk premium, using an arithmetic mean.

Q. Did you conduct a risk premium study or a comparable earnings analysis similar to the ones performed by Mr. Hanley?

- A. No I did not. The risk premium methodology is basically an offshoot of the CAPM and the comparable earnings method, though used by most analysts to some degree, has been largely replaced by forward-looking methods such as DCF and CAPM.
- Q. How does Mr. Hanley arrive at his 11.25 percent cost of common equity figure after presenting the results of his DCF, risk premium, CAPM and comparable earnings analyses?
- A. Mr. Hanley arrived at his recommended 11.25 percent cost of common equity by weighing the results of all four of his models. This resulted in a cost rate of 11.00 percent for his proxy group of eight LDC's. After this he makes an upward adjustment of 31 basis points as a result of SWG's

credit ratings. His final 11.25 percent cost of common equity for SWG is conditioned on the Commission's adoption of the 45.00 percent level of equity, in the Company-proposed capital structure, and the Company's proposed tariff tools.

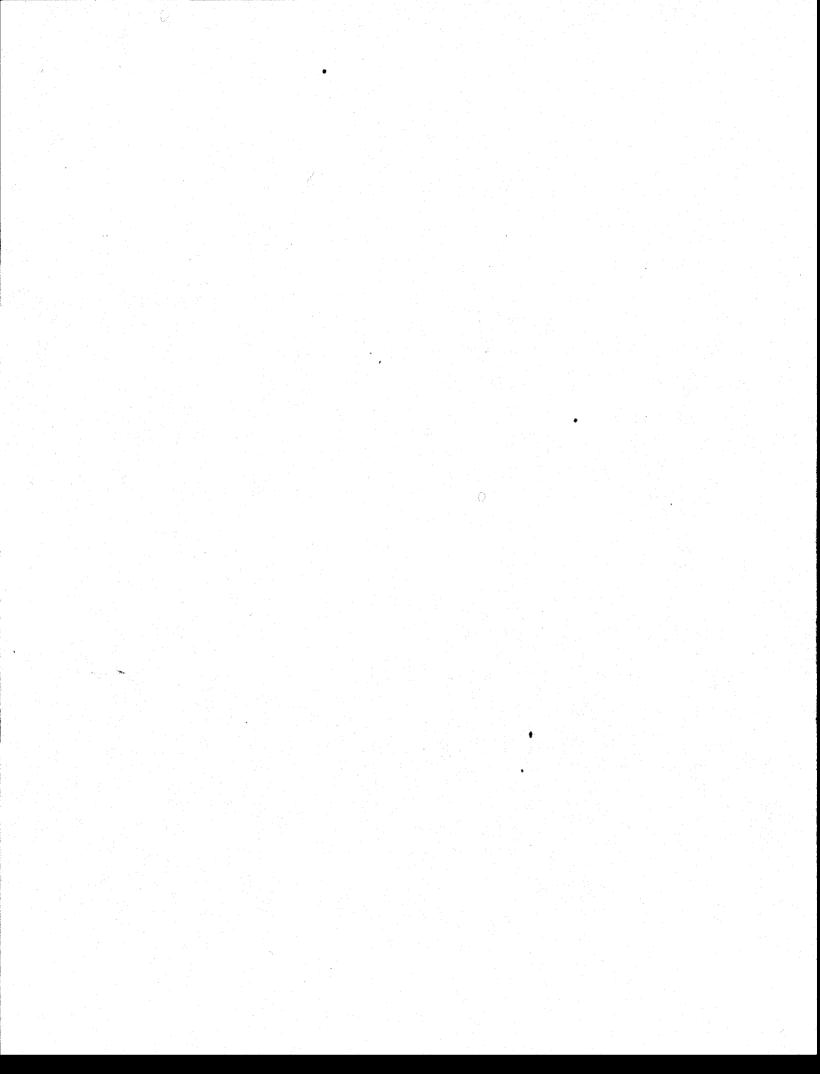
Q. Has Mr. Hanley given any consideration to the risk mitigation inherent in SWG's decoupling proposal in his cost of equity analysis?

A. No. Mr. Hanley's testimony concentrates on why his recommended 11.25 percent cost of common equity is appropriate for SWG given the various characteristics of the LDC's in his sample which includes their credit ratings and the fact that six of the eight have some form of decoupling or weather normalization in some of the jurisdictions they serve. However, Mr. Hanley's testimony does not address the fact that the implementation of a decoupling mechanism, which would essentially provide SWG with a guaranteed return on the Company's invested capital, does in itself merit a lower cost of common equity that reflects the elimination of the risk of not being able to earn an authorized rate of return.

- Q. Does your silence on any of the issues, matters or findings addressed in the testimony of Mr. Hanley constitute your acceptance of his positions on such issues, matters or findings?
- 22 A. No, it does not.

Direct Testimony of William A. Rigsby Southwest Gas Corporation Docket No. G-01551A-07-0504

- 1 Q. Does this conclude your testimony on SWG?
- 2 A. Yes, it does.



# Qualifications of William A. Rigsby, CRRA

**EDUCATION:** 

University of Phoenix

Master of Business Administration, Emphasis in Accounting, 1993

Arizona State University College of Business

Bachelor of Science, Finance, 1990

Mesa Community College

Associate of Applied Science, Banking and Finance, 1986

Society of Utility and Regulatory Financial Analysts 38th Annual Financial Forum and CRRA Examination Georgetown University Conference Center, Washington D.C. Awarded the Certified Rate of Return Analyst designation after successfully completing SURFA's CRRA examination.

Michigan State University Institute of Public Utilities

N.A.R.U.C. Annual Regulatory Studies Program, 1997 &1999

Florida State University

Center for Professional Development & Public Service N.A.R.U.C. Annual Western Utility Rate School, 1996

**EXPERIENCE:** 

Public Utilities Analyst V

Residential Utility Consumer Office

Phoenix, Arizona April 2001 – Present

Senior Rate Analyst

Accounting & Rates - Financial Analysis Unit Arizona Corporation Commission, Utilities Division Phoenix, Arizona

July 1999 – April 2001

Senior Rate Analyst

Residential Utility Consumer Office

Phoenix, Arizona

December 1997 - July 1999

Utilities Auditor II and III

Accounting & Rates - Revenue Requirements Analysis Unit

Arizona Corporation Commission, Utilities Division

Phoenix, Arizona

October 1994 - November 1997

Tax Examiner Technician I / Revenue Auditor II

Arizona Department of Revenue

Transaction Privilege / Corporate Income Tax Audit Units

Phoenix, Arizona

July 1991 - October 1994

# RESUME OF RATE CASE AND REGULATORY PARTICIPATION

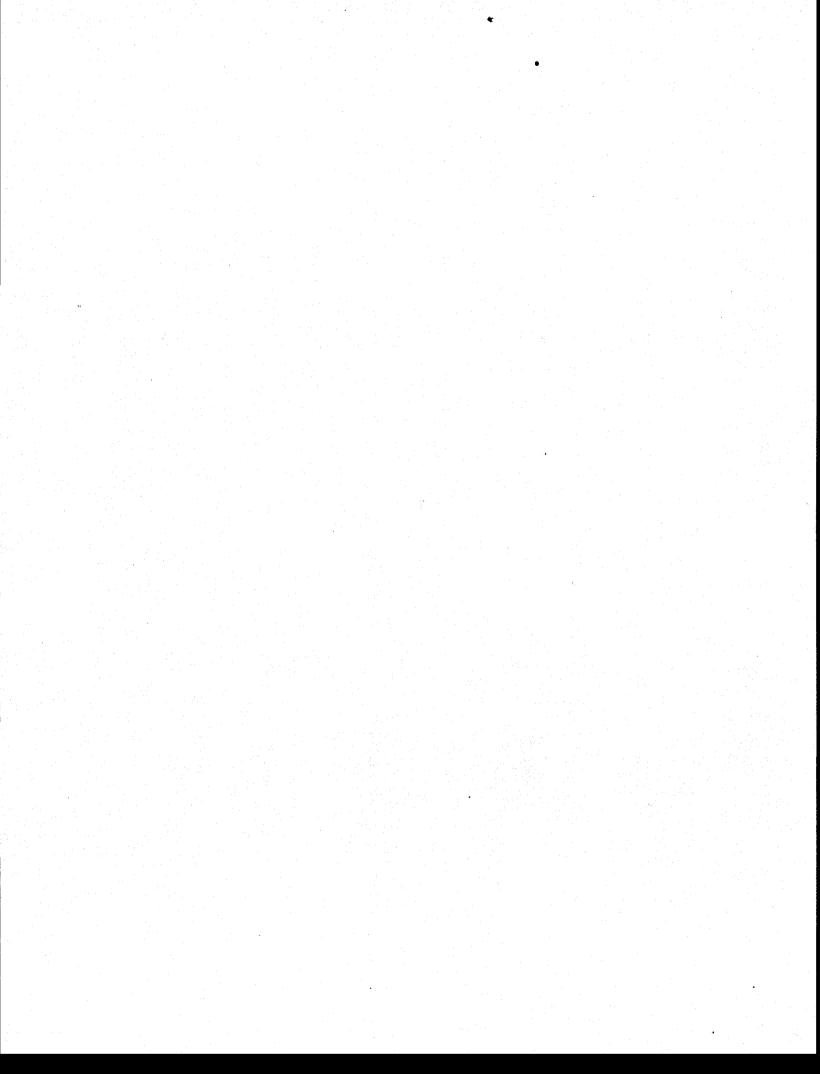
Utility Company	Docket No.	Type of Proceeding
ICR Water Users Association	U-2824-94-389	Original CC&N
Rincon Water Company	U-1723-95-122	Rate Increase
Ash Fork Development Association, Inc.	E-1004-95-124	Rate Increase
Parker Lakeview Estates Homeowners Association, Inc.	U-1853-95-328	Rate Increase
Mirabell Water Company, Inc.	U-2368-95-449	Rate Increase
Bonita Creek Land and Homeowner's Association	U-2195-95-494	Rate Increase
Pineview Land & Water Company	U-1676-96-161	Rate Increase
Pineview Land & Water Company	U-1676-96-352	Financing
Montezuma Estates Property Owners Association	U-2064-96-465	Rate Increase
Houghland Water Company	U-2338-96-603 et al	Rate Increase
Sunrise Vistas Utilities Company – Water Division	U-2625-97-074	Rate Increase
Sunrise Vistas Utilities Company – Sewer Division	U-2625-97-075	Rate Increase
Holiday Enterprises, Inc. dba Holiday Water Company	U-1896-97-302	Rate Increase
Gardener Water Company	U-2373-97-499	Rate Increase
Cienega Water Company	W-2034-97-473	Rate Increase
Rincon Water Company	W-1723-97-414	Financing/Auth. To Issue Stock
Vail Water Company	W-01651A-97-0539 et al	Rate Increase
Bermuda Water Company, Inc.	W-01812A-98-0390	Rate Increase
Bella Vista Water Company	W-02465A-98-0458	Rate Increase
Pima Utility Company	SW-02199A-98-0578	Rate Increase

# RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)

Utility Company	Docket No.	Type of Proceeding	
Pineview Water Company	W-01676A-99-0261	WIFA Financing	
I.M. Water Company, Inc.	W-02191A-99-0415	Financing	
Marana Water Service, Inc.	W-01493A-99-0398	WIFA Financing	
Tonto Hills Utility Company	W-02483A-99-0558	WIFA Financing	
New Life Trust, Inc. dba Dateland Utilities	W-03537A-99-0530	Financing	
GTE California, Inc.	T-01954B-99-0511	Sale of Assets	
Citizens Utilities Rural Company, Inc.	T-01846B-99-0511	Sale of Assets	
MCO Properties, Inc.	W-02113A-00-0233	Reorganization	
American States Water Company	W-02113A-00-0233	Reorganization	
Arizona-American Water Company	W-01303A-00-0327	Financing	
Arizona Electric Power Cooperative	E-01773A-00-0227	Financing	
360networks (USA) Inc.	T-03777A-00-0575	Financing	
Beardsley Water Company, Inc.	W-02074A-00-0482	WIFA Financing	
Mirabell Water Company	W-02368A-00-0461	WIFA Financing	
Rio Verde Utilities, Inc.	WS-02156A-00-0321 et al	Rate Increase/ Financing	
Arizona Water Company	W-01445A-00-0749	Financing	
Loma Linda Estates, Inc.	W-02211A-00-0975	Rate Increase	
Arizona Water Company	W-01445A-00-0962	Rate Increase/ACRM	
Mountain Pass Utility Company	SW-03841A-01-0166	Financing	
Picacho Sewer Company	SW-03709A-01-0165	Financing	
Picacho Water Company	W-03528A-01-0169	Financing	
Ridgeview Utility Company	W-03861A-01-0167	Financing	
Green Valley Water Company	W-02025A-01-0559	Rate Increase	
Bella Vista Water Company	W-02465A-01-0776	Rate Increase	
Arizona Water Company	W-01445A-02-0619	Rate Increase/ACRM	

# **RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)**

Utility Company	Docket No.	Type of Proceeding
Arizona-American Water Company	W-01303A-02-0867 et al.	Rate Increase
Arizona Public Service Company	E-01345A-03-0437	Rate Increase
Rio Rico Utilities, Inc.	WS-02676A-03-0434	Rate Increase
Qwest Corporation	T-01051B-03-0454	Renewed Price Cap
Chaparral City Water Company	W-02113A-04-0616	Rate Increase
Arizona Water Company	W-01445A-04-0650	Rate Increase/ACRM
Tucson Electric Power Company	E-01933A-04-0408	Rate Review
Southwest Gas Corporation	G-01551A-04-0876	Rate Increase
Arizona-American Water Company	W-01303A-05-0405	Rate Increase/ACRM
Black Mountain Sewer Corporation	SW-02361A-05-0657	Rate Increase
Far West Water & Sewer Company	WS-03478A-05-0801	Rate Increase
Gold Canyon Sewer Company	SW-02519A-06-0015	Rate Increase
Arizona Public Service Company	E-01345A-05-0816	Rate Increase
Arizona-American Water Company	W-01303A-06-0014	Rate Increase
Arizona-American Water Company	W-01303A-05-0718	Transaction Approval
UNS Gas, Inc.	G-04204A-06-0463	Rate Increase
Arizona-American Water Company	WS-01303A-06-0403	Rate Increase
Arizona-American Water Company	WS-01303A-06-0491	Rate Increase
UNS Electric, Inc.	E-04204A-06-0783	Rate Increase
Arizona-American Water Company	W-01303A-07-0209	Rate Increase
Tucson Electric Power Company	E-01933A-07-0402	Rate Increase



# **ATTACHMENT A**

The Natural Gas Utility Industry ranks in the bottom half of our industry spectrum for Timeliness. However, many firms are developing opportunities to bolster growth for the years ahead. Moreover, companies in this sector tend to be stable businesses that offer attractive dividend yields, which may add appeal to many issues, given the current lackluster economic environment. Still, limited near-term earnings prospects and a tough regulatory environment continue to weigh on firms here.

#### **Economic Environment**

The domestic economy appears to be moving closer to a possible recession. Investor sentiment has soured over the past year, as turmoil in the credit markets and a weak housing market have been a drag on the broader economy. The weakness in the housing market has hurt companies in this industry, as customer growth has slowed for many Natural Gas Utilities. Oil prices have risen, which has helped offset some of this pressure, as natural gas has become an increasingly popular choice for consumers to meet their energy needs. Given the current turmoil in the world's financial markets, good quality businesses such as these may come increasingly into favor. These equities offer fairly predictable results, solid balance sheets, and above-average yields. Thus, conservative accounts may want to consider some of the stocks in this industry if they are trying to reduce risk in their portfolios.

Regulation

Rate cases are a key theme for the companies in this industry. These firms are regulated by state commissions that dictate the return on equity these companies can achieve. As a result, these utilities tend to register flat bottom-line results from year to year. Notably, numerous firms are in the process of applying for new rates or have cases pending. Therefore, when reading the following pages, investors should pay special attention to this factor as it will likely remain key for these firms going forward. This should be increasingly important if the tough real estate market continues to hinder demand for natural gas. When considering new cases, regulators try to strike a balance between consumer and shareholder interests. Given the recent challenges of this industry, the management of these firms are eagerly

Composite Statistics: Natural Gas Utility								
2004	2005	2006	2007	2008	2009		11-13	
33220	41399	41401	44500	46500	49500	Revenues (\$mill)	61500	
1517.2	1788.8	1823.0	2050	2150	2350	Net Profit (\$mili)	3000	
35.7%	35.8%	36.1%	36.0%	36.0%	36.0%	Income Tax Rate	36.0%	
4.6%	4.3%	4.4%	4.6%	4.6%	4.7%	Net Profit Margin	4.9%	
53.2%	50.7%	52.0%	51.0%	51.0%	51.0%	Long-Term Debt Ratio	52.0%	
45.7%	48.3%	47.0%	48.0%	48.0%	48.0%	Common Equity Ratio	46.0%	
31268	33911	35357	36750	38000	39750	Total Capital (\$mill)	44000	
32053	35030	35944	39000	41000	43000	Net Plant (\$mill)	47500	
6.4%	6.9%	6.7%	7.0%	7.0%	7.5%	Return on Total Cap'l	8.0%	
10.4%	10.7%	10.7%	11.5%	11.5%	12.0%	Return on Shr. Equity	12.5%	
10.5%	10.8%	11.0%	11.5%	11.5%	12.0%	Return on Com Equity	12.5%	
4.0%	4.4%	4.6%	5.2%	5.3%	5.5%	Retained to Com Eq	6.0%	
63%	59%	59%	60%	60%	60%	All Div'ds to Net Prof	60%	
15.6	16.2	15.8		Bold figures are Value Line estimates		Avg Ann'i P/E Ratio	13.0	
.82	.87	.90				Relative P/E Ratio	.85	
4.0%	3.6%	3.6%		esu	nates	Avg Ann'l Div'd Yield	4.6%	
308%	331%	315%	325%	325%	330%	Fixed Charge Coverage	330%	

#### **INDUSTRY TIMELINESS: 70 (of 97)**

hoping for relief from these commissions in order to boost results.

#### **Business Structure**

Companies in this sector have sought various ways to drive profits. One such way has been developing or adding unregulated businesses to their operations. These ventures are not limited by state commissions and possess the potential to drive share-net beyond their typical levels. Currently, this strategy only makes up a small portion of this industry's results. However, it may become an increasingly important long-term opportunity. Another way firms have been trying to boost performance is by improving cost controls. Firms have also been looking to evolve their business model in an effort to create more sustainable growth. Companies have developed new ventures such as the ones mentioned above, while others have added bolt-on acquisitions to improve their position in this mature market. As a result, we believe that there will probably continue to be consolidation in this industry for the foreseeable future. All told, these strategies have been necessary for companies to continue to grow their business.

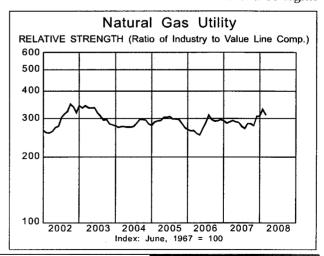
#### Weather

Weather is another factor that firms have to contend with in the Natural Gas Utility industry. Unseasonably warm or cold weather can create increased volatility. As a result, the predictable growth these firms enjoy can be disrupted. Some of these utilities hedge their risk through weather-adjusted rate mechanisms. This can minimize volatility if these weather abnormalities occur. Therefore, investors interested in firms with more stable performance should look for companies that use these strategies.

### **Investment Consideration**

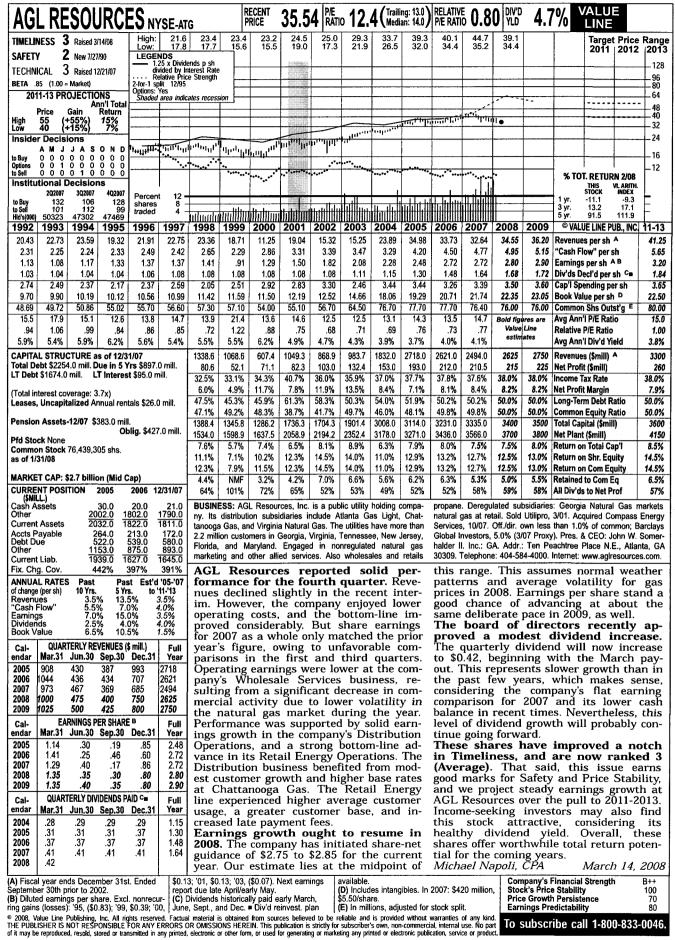
The majority of the stocks in this industry have subpar prospects over the 3- to 5-year pull. Additionally, the lion's share of the equities in this industry are ranked average or lower for Timeliness. Therefore, we believe performance-minded investors should look elsewhere. However, conservative income-oriented accounts may be attracted by these companies' above-average yields.

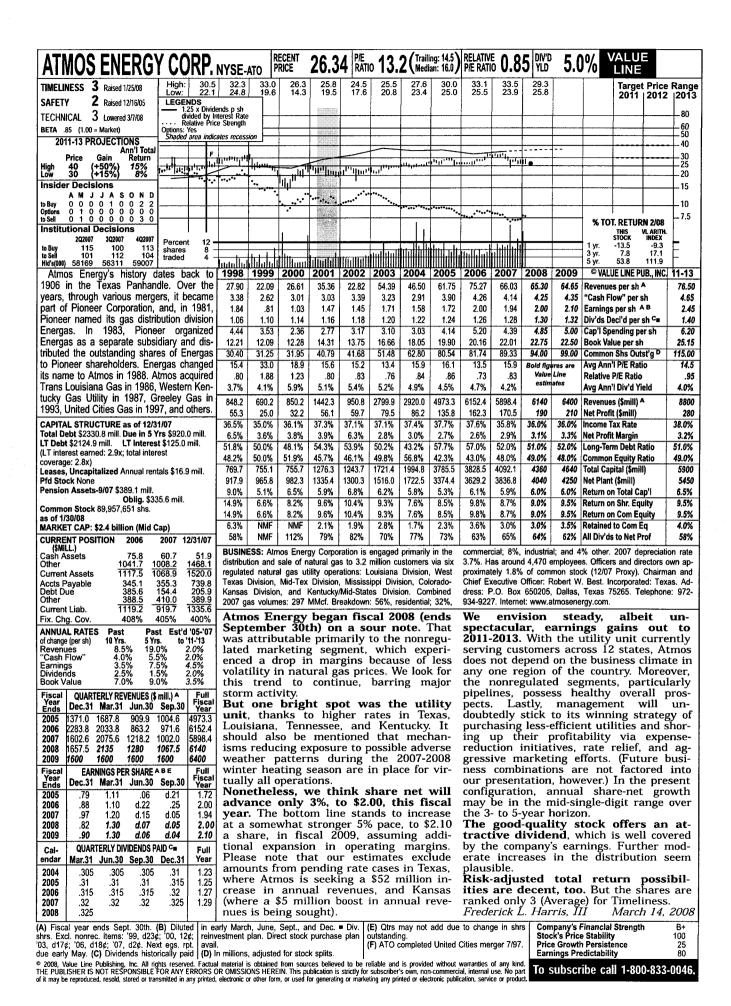
Richard Gallagher

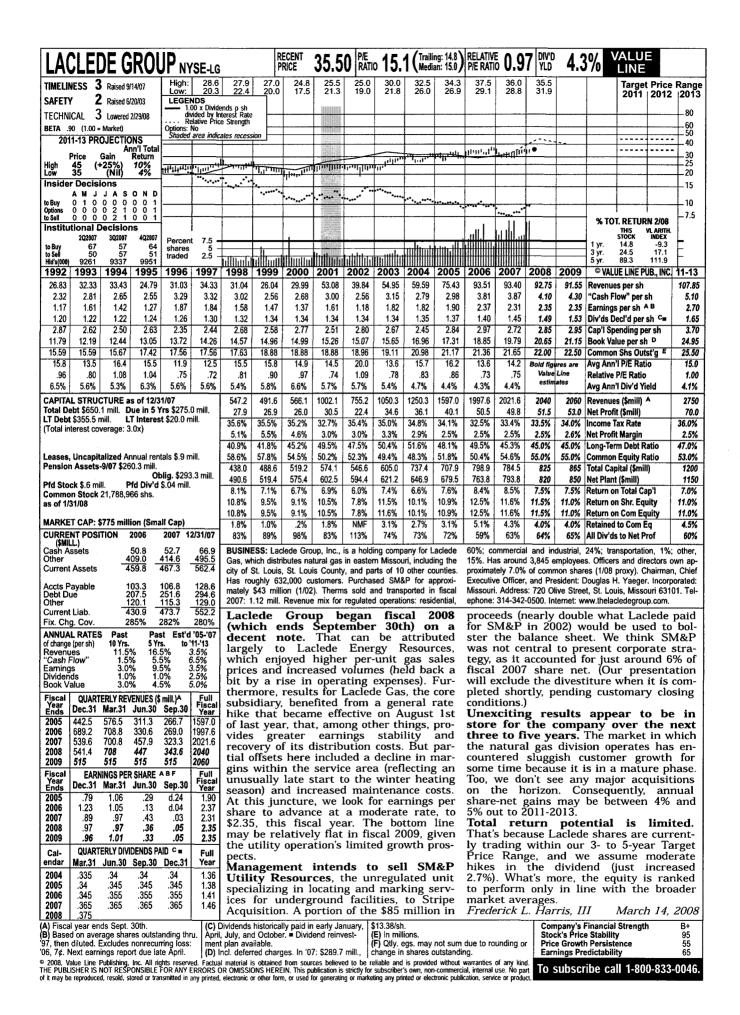


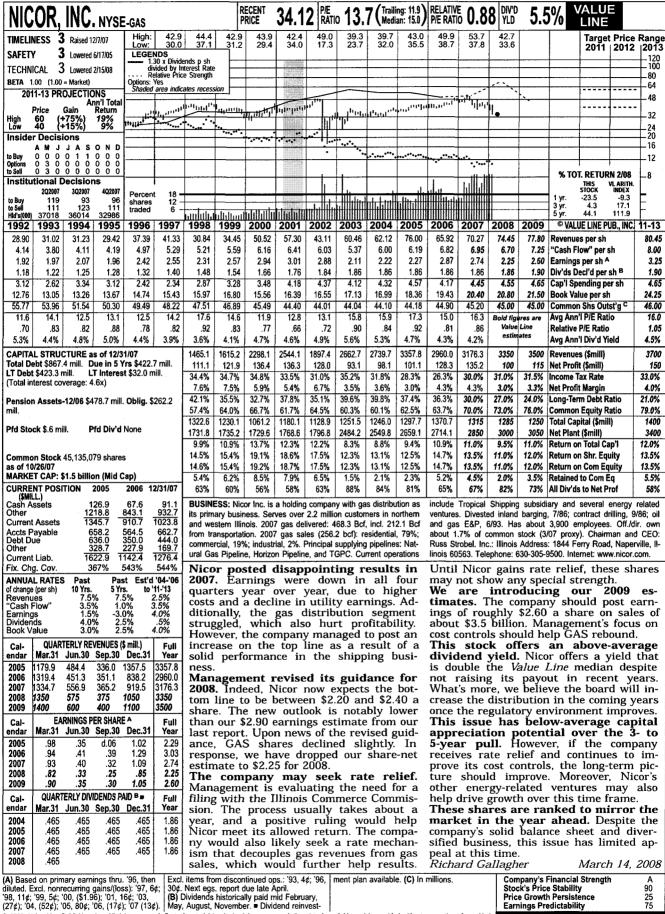
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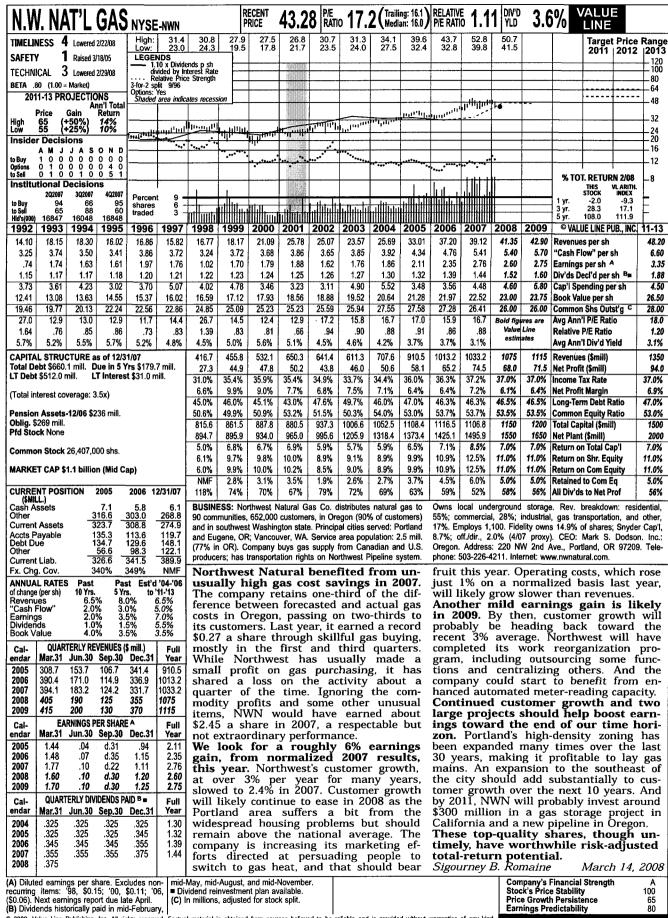






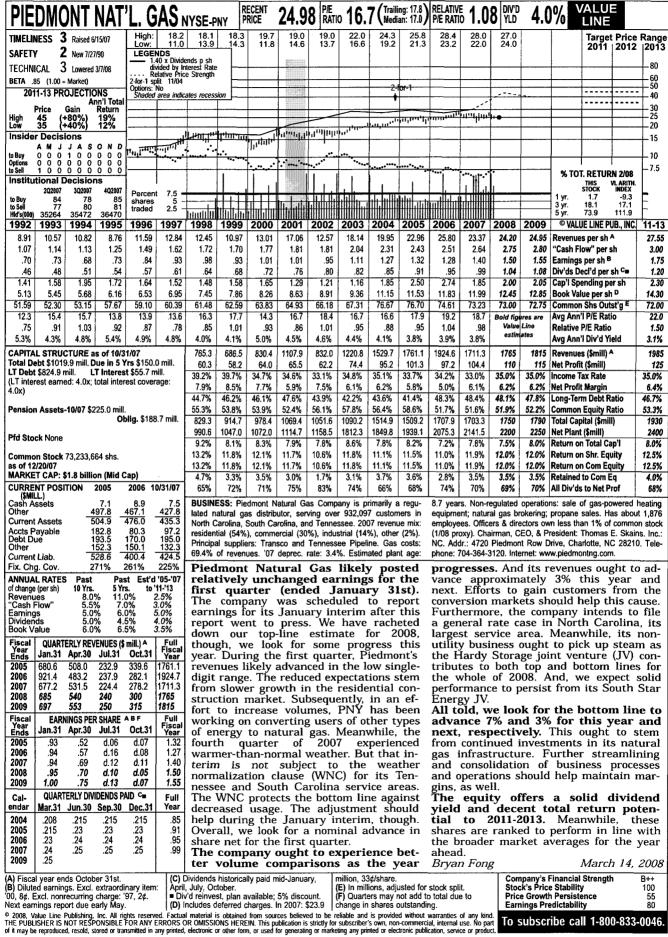


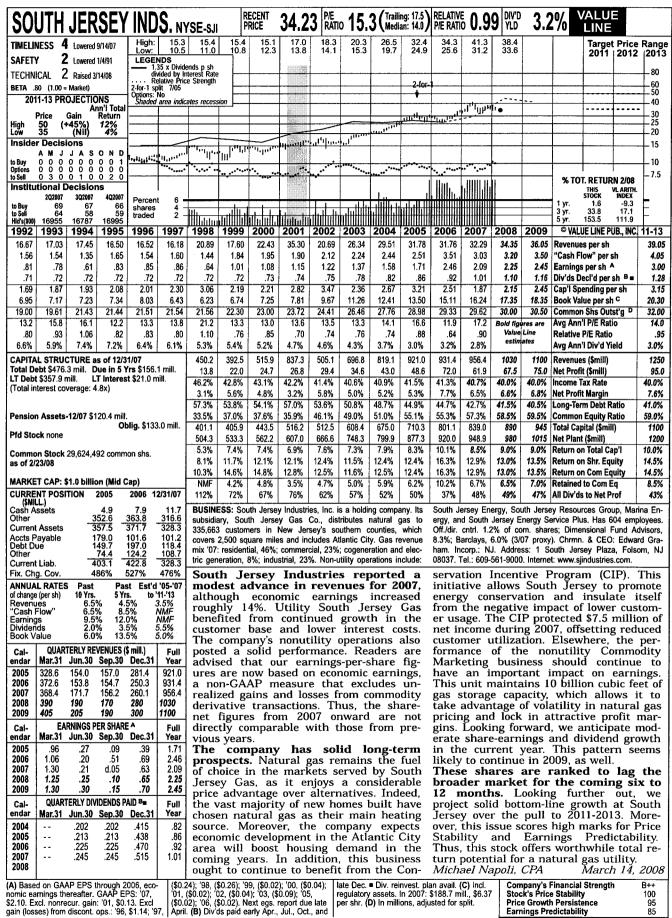
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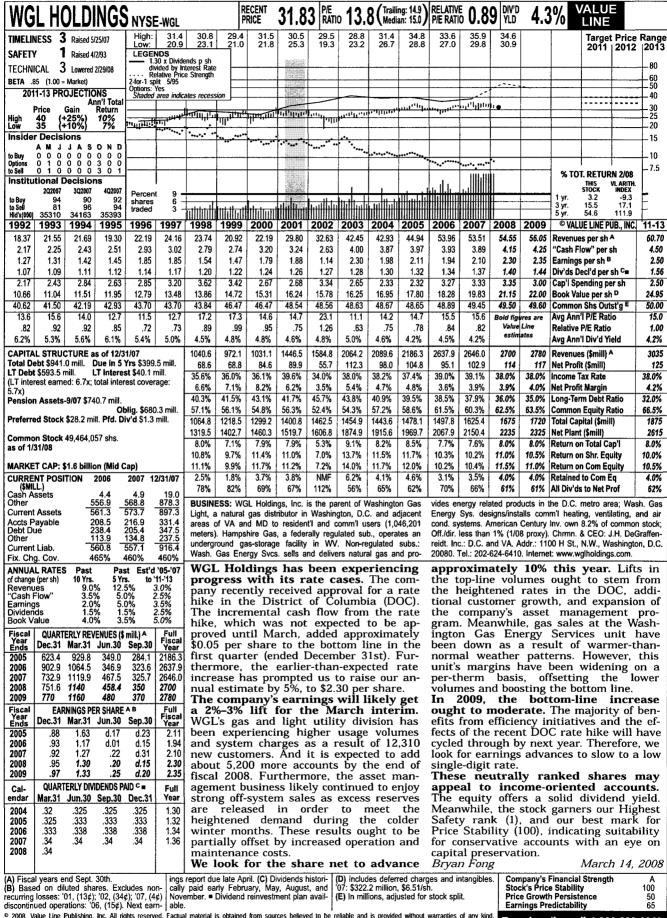
Company's Financial Strength Stock's Price Stability Price Growth Persistence 65 **Earnings Predictability** 



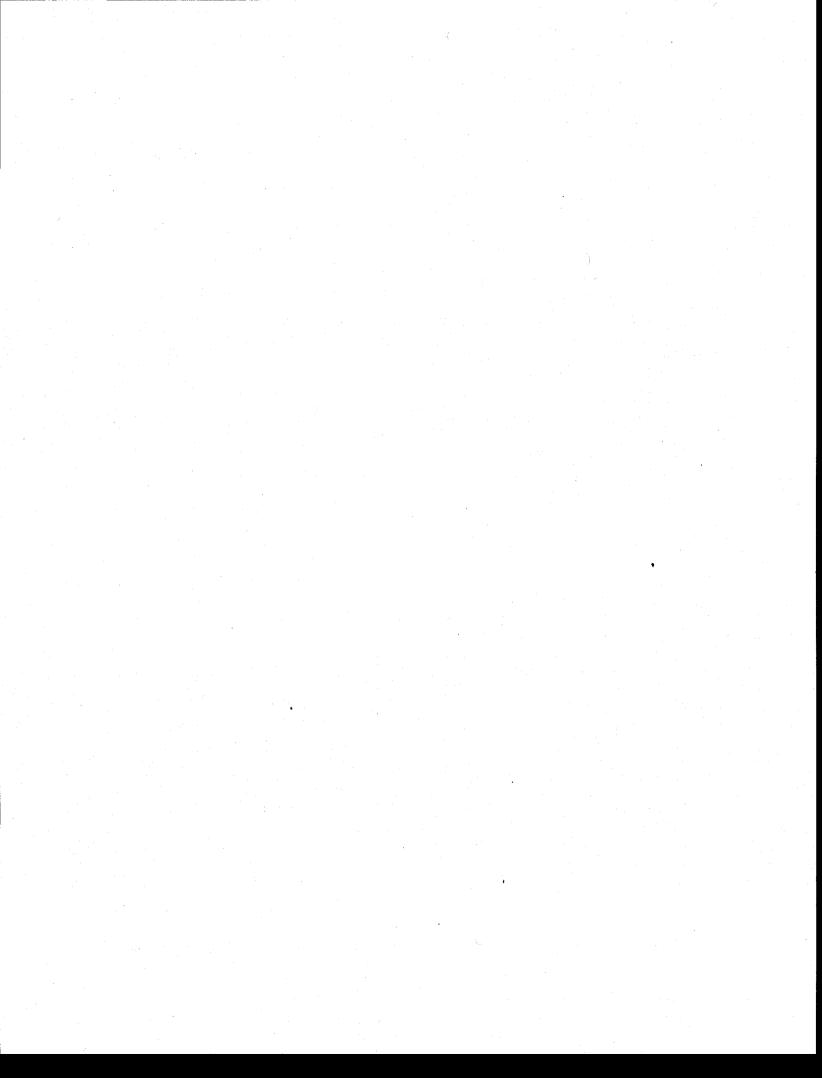


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**Earnings Predictability** 



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# **ATTACHMENT B**



#### Zacks.com Quotes and Research

ATLAN	TA GAS LIGI	HT (NYSE)			Scottrade
ATG	34.46	<b>▼-</b> 0.09	(-0.26%)	Vol. 197,003	13:25 ET

AGL Resources principal business is the distribution of natural gas to customers in central, northwest, northeast and southeast Georgia and the Chattanooga, Tennessee area through its natural gas distribution subsidiary. AGL's major service area is the ten county metropolitan Atlanta area.

#### **General Information**

AGL RESOURCES Ten Peachtree Place NE Atlanta, GA 30309 Phone: 404 584-4000 Fax: 404 584-3945

Web: www.aglresources.com Email: scave@aglresources.com

Industry Sector:

**UTIL-GAS DISTR** 

Utilities

Fiscal Year End Last Reported Quarter December 12/31/07

Next EPS Date

05/07/2008

#### **Price and Volume Information**

Zacks Rank	<i>i</i> z
Yesterday's Close	34.55
52 Week High	44.67
52 Week Low	34.44
Beta	0.46
20 Day Moving Average	437,597.56
Target Price Consensus	41.95



#### % Price Change

% Price Change		% Price Change Relative to S&P 50	0
4 Week	-6.42	4 Week	-3.68
12 Week	-4.69	12 Week	8.18
YTD	-8.21	YTD	4.21
Share Information		Dividend Information	

Shares Outstanding	76 44	Dividend Yield	4.86%
(millions)	, 0	Annual Dividend	\$1.68
Market Capitalization (millions)	2,640.97	Payout Ratio	0.60
Short Ratio	1.89	Change in Payout Ratio	0.04
Last Split Date	12/04/1995	Last Dividend Payout / Amount	02/13/2008 / \$0.42

#### **EPS Information**

#### **Consensus Recommendations**

Current Quarter EPS Consensus Estimate	1.34	Current (1=Strong Buy, 5=Strong Sell)	2.00
Current Year EPS Consensus Estimate	2.82	30 Days Ago	2.00
Estimated Long-Term EPS Growth Rate	4.80	60 Days Ago	2.00
Next EPS Report Date	05/07/2008	90 Days Ago	1.88

#### **Fundamental Ratios**

P/E		<b>EPS Growth</b>		Sales Growth	
Current FY Estimate:	12.26	vs. Previous Year	43.33%	vs. Previous Year	-3.11%
Trailing 12 Months:	12.66	vs. Previous Quarter	405.88%	vs. Previous Quarter:	85.64%
PEG Ratio	2.58				

#### **Price Ratios**

ROE	ROA

Price/Book	1.59 12/31/07	12.72 12/31/07	3.57
------------	---------------	----------------	------

Price/Cash Flow	7.45	09/30/07	11.67	09/30/07	3.27
Price / Sales	1.06	06/30/07	13.15	06/30/07	3.66
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	1.10	12/31/07	0.77	12/31/07	8.46
09/30/07	1.04	09/30/07	0.56	09/30/07	7.63
06/30/07	1.08	06/30/07	0.62	06/30/07	8.33
Net Margin		Pre-Tax Margin		Book Value	
12/31/07	13.55	12/31/07	13.55	12/31/07	21.69
09/30/07	12.28	09/30/07	12.28	09/30/07	20.89
06/30/07	13.41	06/30/07	13.41	06/30/07	21.49
Inventory Turnover		Debt-to-Equity		Debt to Captial	
12/31/07	2.49	12/31/07	1.01	12/31/07	50.89
09/30/07	2.50	09/30/07	0.95	09/30/07	49.47
06/30/07	2.59	06/30/07	0.92	06/30/07	48.65

Zacks.com Page 1 of 2



Proven Ratings, Research & Recommendations

#### Zacks.com Quotes and Research

ATMOS ENERGY CP (NYSE)					Scottrade
АТО	25.81	<b>▲</b> 0.03	(0.12%)	Vol. 347,800	12:58 ET

Atmos Energy Corporation distributes and sells natural gas to residential, commercial, industrial, agricultural and other customers. Atmos operates through five divisions in cities, towns and communities in service areas located in Colorado, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Missouri, South Carolina, Tennessee, Texas and Virginia. The Company has entered into an agreement to sell all of its natural gas utility operations in South Carolina. The Company also transports natural gas for others through its distribution system.

#### **General Information**

ATMOS ENERGY CP

Three Lincoln Centre, 5430 Lbj Freeway

Suite 1800

Dallas, TX 75240 Phone: 972 934-9227 Fax: 972 855-3040

Web: www.atmosenergy.com

Email: InvestorRelations@atmosenergy.com

Industry

**UTIL-GAS DISTR** 

Sector:

Utilities

Fiscal Year End

September

Last Reported Quarter Next EPS Date 12/31/07 05/07/2008

#### **Price and Volume Information**

Zacks Rank	î2
Yesterday's Close	25.78
52 Week High	33.47
52 Week Low	23.87
Beta	0.76
20 Day Moving Average	491,138.56
Target Price Consensus	30.29



%	Price	Change
---	-------	--------

(millions)

D/E

Short Ratio

Share Information		Dividend Information	
YTD	-8.06	YTD	4.38
12 Week	-4.09	12 Week	8.85
4 Week	-6.29	4 Week	-3.54

# Shares Outstanding (millions) Market Capitalization

 89.96
 Dividend Yield
 5.04%

 Annual Dividend
 \$1.30

 2,319.12
 Payout Ratio
 0.71

% Price Change Relative to S&P 500

Last Split Date 05/17/1994

61 Change in Payout Ratio 0.05

104 Last Dividend Payout / Amount 02/21/2008 / \$0.32

Sales Growth

#### EPS Information Consensus Recommendations

**FPS Growth** 

Current Quarter EPS Consensus Estimate	1.38	Current (1=Strong Buy, 5=Strong Sell)	2.11
Current Year EPS Consensus Estimate	1.99	30 Days Ago	2.11
Estimated Long-Term EPS Growth Rate	4.60	60 Days Ago	2.00
Next EPS Report Date	05/07/2008	90 Days Ago	2.00

#### **Fundamental Ratios**

7 J Sun		LI O Olontii		Ouics Ciowin	
Current FY Estimate:	12.95	vs. Previous Year	-15.46%	vs. Previous Year	3.42%
Trailing 12 Months:	14.09	vs. Previous Quarter	2,150.00%	vs. Previous Quarter:	65.41%

PEG Ratio

Price Ratios		ROE		ROA	
Price/Book	1.14	12/31/07	8.14	12/31/07	2.67
Price/Cash Flow	6.18	09/30/07	8.64	09/30/07	2.81
Price / Sales	0.39	06/30/07	10.30	06/30/07	3.24
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	1.14	12/31/07	0.72	12/31/07	2.74
09/30/07	1.16	09/30/07	0.60	09/30/07	2.89
06/30/07	1.22	06/30/07	0.80	06/30/07	3.32
Net Margin		Pre-Tax Margin		Book Value	
<b>Net Margin</b> 12/31/07	4.22	Pre-Tax Margin 12/31/07	4.22	<b>Book Value</b> 12/31/07	22.62
-	4.22 4.45	•	4.22 4.45		22.62 22.05
12/31/07		12/31/07		12/31/07	
12/31/07 09/30/07	4.45	12/31/07 09/30/07	4.45	12/31/07 09/30/07	22.05
12/31/07 09/30/07 06/30/07	4.45	12/31/07 09/30/07 06/30/07	4.45	12/31/07 09/30/07 06/30/07	22.05
12/31/07 09/30/07 06/30/07 Inventory Turnover	4.45 5.05	12/31/07 09/30/07 06/30/07 Debt-to-Equity	4.45 5.05	12/31/07 09/30/07 06/30/07 Debt to Captial	22.05 22.39



#### Zacks.com Quotes and Research

LACLEDE GROUP INC (NYSE)					Scottrade
LG	34.30	<b>▲</b> 0.35	(1.03%)	Vol. 59,200	12:59 ET

The Laclede Group, Inc. is a public utility engaged in the retail distribution and transportation of natural gas. The Company, which is subject to the jurisdiction of the Missouri Public Service Commission, serves the City of St. Louis, St. Louis County, the City of St. Charles, St. Charles County, the town of Arnold, and parts of Franklin, Jefferson, St. Francois, Ste. Genevieve, Iron, Madison and Butler Counties, all in Missouri.

#### **General Information**

LACLEDE GRP INC 720 Olive Street St. Louis, MO 63101 Phone: 314-342-0500

Fax: -

Web: www.thelacledegroup.com Email: mkullman@lacledegas.com

Industry

**UTIL-GAS DISTR** 

Sector: Utilities

Fiscal Year End

September

Last Reported Quarter Next EPS Date

12/31/07 04/25/2008

#### **Price and Volume Information**

Zacks Rank	Æ
Yesterday's Close	33.95
52 Week High	35.72
52 Week Low	28.84
Beta	0.79
20 Day Moving Average	148,388.95
Target Price Consensus	N/A



#### % Price Change

% Price Change	% Price Change Relative to S&P 500	
4 Week 2.35	4 Week 5.35	
12 Week 0.83	12 Week 14.44	
YTD -0.85	YTD 12.57	

Share Information		Dividend Information	
Shares Outstanding	21.79	Dividend Yield	4.42%
(millions)		Annual Dividend	\$1.50
Market Capitalization (millions)	739.74	Payout Ratio	0.63
Short Ratio	11.60	Change in Payout Ratio	-0.07
Last Split Date	03/08/1994	Last Dividend Payout / Amount	03/07/2008 / \$0.38

#### **EPS** Information

#### **Consensus Recommendations**

Current Quarter EPS Consensus Estimate	0.94	Current (1=Strong Buy, 5=Strong Sell)	3.00
Current Year EPS Consensus Estimate	2.28	30 Days Ago	3.00
Estimated Long-Term EPS Growth Rate	-	60 Days Ago	3.00
Next EPS Report Date	04/25/2008	90 Days Ago	3.00

#### Fundamental Ratine

rungamentai Katios					
P/E		<b>EPS Growth</b>		Sales Growth	
Current FY Estimate:	14.89	vs. Previous Year	8.99%	vs. Previous Year	0.33%
Trailing 12 Months:	14.15	vs. Previous Quarter	3,133.33%	vs. Previous Quarter:	67.46%
PEG Ratio	-				

#### **Price Ratios**

ROE ROA

11.91 12/31/07 Price/Book 1.67 12/31/07 3.20

Price/C	ash Flow	8.34	09/30/07	11.64	09/30/07	3.12
Price /	Sales	0.37	06/30/07	11.48	06/30/07	3.07
Currer	nt Ratio		Quick Ratio		Operating Margin	
12/31/0	7	1.02	12/31/07	0.73	12/31/07	2.55
09/30/0	7	0.99	09/30/07	0.64	09/30/07	2.46
06/30/0	7	1.09	06/30/07	0.84	06/30/07	2.46
Net Ma	argin		Pre-Tax Margin		Book Value	
12/31/0	7	3.84	12/31/07	3.84	12/31/07	20.32
09/30/0	7	3.70	09/30/07	3.70	09/30/07	19.80
06/30/0	7	3.73	06/30/07	3.73	06/30/07	20.13
Invent	ory Turnover		Debt-to-Equity		Debt to Captial	
12/31/0	7	13.60	12/31/07	0.81	12/31/07	44.63
09/30/0	7	12.85	09/30/07	0.83	09/30/07	45.32
06/30/0	7	12.81	06/30/07	0.82	06/30/07	45.02



#### Zacks.com Quotes and Research

NICOR II	NC (NYSE)				Scottrade
GAS	33.11	<b>≈</b> 0.10	(0.30%)	Vol. 341,691	13:00 ET

Nicor Inc. is a holding company and is a member of the Standard & Poor's 500 Index. Its primary business is Nicor Gas, one of the nation's largest natural gas distribution companies. Nicor owns Tropical Shipping, a containerized shipping business serving the Caribbean region and the Bahamas. In addition, the company owns and has an equity interest in several energy-related businesses.

#### **General Information**

NICOR INC 1844 Ferry Road Naperville, IL 60563-9600 Phone: 630 305-9500 Fax: 630 983-9328 Web: www.nicor.com Email: None

Industry Sector:

**UTIL-GAS DISTR** 

Utilities

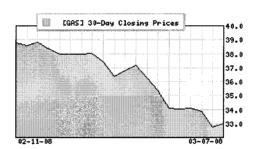
Fiscal Year End Last Reported Quarter

Next EPS Date

December 12/31/07 04/25/2008

#### Price and Volume Information

Zacks Rank	iz
Yesterday's Close	33.01
52 Week High	53.66
52 Week Low	32.74
Beta	0.91
20 Day Moving Average	865,557.50
Target Price Consensus	43.33



#### % Price Change

4 Week 12 Week YTD

	% Price Change Relative to S&P 500	
-15.27	4 Week	-12.79
-22.35	12 Week	-11.87
-22.05	YTD	-11.51

#### **Share Information Shares Outstanding**

Share Information		Dividend Information	
Shares Outstanding	45.13	Dividend Yield	5.63%
(millions)	101.10	Annual Dividend	\$1.86
Market Capitalization (millions)	1,489.91	Payout Ratio	0.65
Short Ratio	8.36	Change in Payout Ratio	-0.11
Last Split Date	04/27/1993	Last Dividend Payout / Amount	12/27/2007 / \$0.47

#### **EPS Information**

#### **Consensus Recommendations**

Current Quarter EPS Consensus Estimate	0.71	Current (1=Strong Buy, 5=Strong Sell)	3.20
Current Year EPS Consensus Estimate	2.64	30 Days Ago	2.80
Estimated Long-Term EPS Growth Rate	4.00	60 Days Ago	2.75
Next EPS Report Date	04/25/2008	90 Days Ago	2.75

#### **Fundamental Ratios**

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	12.48	vs. Previous Year	-5.43%	vs. Previous Year	9.70%
Trailing 12 Months:	11.50	vs. Previous Quarter	281.25%	vs. Previous Quarter:	151.78%

PEG Ratio 3.12

**Price Ratios** ROE ROA

Price/Book 1.58 12/31/07 14.12 12/31/07 3.21

Price/Cash Flow	4.73	09/30/07	14.71	09/30/07	3.31
Price / Sales	0.47	06/30/07	14.81	06/30/07	3.29
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	0.80	12/31/07	0.68	12/31/07	4.09
09/30/07	0.73	09/30/07	0.48	09/30/07	4.29
06/30/07	0.79	06/30/07	0.74	06/30/07	4.24
Net Margin		Pre-Tax Margin		Book Value	
12/31/07	5.80	12/31/07	5.80	12/31/07	20.95
09/30/07	6.05	09/30/07	6.05	09/30/07	20.15
06/30/07	6.35	06/30/07	6.35	06/30/07	20.35
Inventory Turnover		Debt-to-Equity		Debt to Captial	
12/31/07	22.95	12/31/07	0.45	12/31/07	30.89
09/30/07	18.26	09/30/07	0.47	09/30/07	31.73
06/30/07	19.79	06/30/07	0.54	06/30/07	35.18



#### Zacks.com Quotes and Research

NORTHWEST NAT GAS (NYSE)				S	cottrade
NWN	42.23	<b>≈ 0.22</b>	(0.52%)	Vol. 119,600	13:02 ET

NW Natural is principally engaged in the distribution of natural gas. The Oregon Public Utility Commission (OPUC) has allocated to NW Natural as its exclusive service area a major portion of western Oregon, including the Portland metropolitan area, most of the fertile Willamette Valley and the coastal area from Astoria to Coos Bay. NW Natural also holds certificates from the Washington Utilities and Transportation Commission (WUTC) granting it exclusive rights to serve portions of three Washington counties bordering the Columbia River.

#### **General Information**

NORTHWEST NAT G 220 N.W. Second Avenue Portland, OR 97209 Phone: 503 226-4211

Fax: 503 273-4824 Web: www.nwnatural.com Email: Bob.Hess@nwnatural.com

Industry

**UTIL-GAS DISTR** 

Sector:

Utilities

Fiscal Year End

% Price Change

December

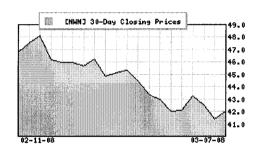
Last Reported Quarter Next EPS Date

12/31/07 04/24/2008

#### **Price and Volume Information**

Zacks Rank	/k
Yesterday's Close	42.01
52 Week High	52.85
52 Week Low	40.98
Beta	0.77
20 Day Moving Average	317,889.84
Target Price Consensus	52. <b>25</b>

get File Consensus 52.25



#### % Price Change Relative to S&P 500

4 Week	-11.56	4 Week	-8.96
12 Week	-10.94	12 Week	1.08
YTD	-13.67	YTD	-1.99

#### Share Information Dividend Information

Snare information		Dividend information	
Shares Outstanding	26.41	Dividend Yield	3.57%
(millions)		Annual Dividend	\$1.50
Market Capitalization (millions)	1,109.40	Payout Ratio	0.54
Short Ratio	11.06	Change in Payout Ratio	-0.11
Last Split Date	09/09/1996	Last Dividend Payout / Amount	01/29/2008 / \$0.38

#### EPS Information Consensus Recommendations

Current Quarter EPS Consensus Estimate	1.69	Current (1=Strong Buy, 5=Strong Sell)	2.25
Current Year EPS Consensus Estimate	2.60	30 Days Ago	2.25
Estimated Long-Term EPS Growth Rate	5.30	60 Days Ago	2.43
Next EPS Report Date	04/24/2008	90 Days Ago	2.43

#### **Fundamental Ratios**

	EPS Growth		Sales Growth	
16.15	vs. Previous Year	2.75%	vs. Previous Year	-1.57%
15.22	vs. Previous Quarter	609.09%	vs. Previous Quarter:	166.90%
		EPS Growth 16.15 vs. Previous Year 15.22 vs. Previous Quarter	16.15 vs. Previous Year 2.75%	16.15 vs. Previous Year 2.75% vs. Previous Year

PEG Ratio 3.08

Price Ratios ROE ROA

Price/Book	1.87	12/31/07	12.24	12/31/07	3.93
Price/Cash Flow	7.78	09/30/07	12.35	09/30/07	3,92
Price / Sales	1.07	06/30/07	11.69	06/30/07	3.77
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	0.71	12/31/07	0.50	12/31/07	7.21
09/30/07	0.69	09/30/07	0.39	09/30/07	7.21
06/30/07	0.76	06/30/07	0.47	06/30/07	6.91
Net Margin		Pre-Tax Margin		Book Value	
12/31/07	11.47	12/31/07	11.47	12/31/07	22.48
09/30/07	11.43	09/30/07	11.43	09/30/07	22.01
06/30/07	10.96	06/30/07	10.96	06/30/07	<b>22</b> .61
Inventory Turnover		Debt-to-Equity		Debt to Captial	
12/31/07	9.07	12/31/07	0.86	12/31/07	46.26
09/30/07	9.62	09/30/07	0.88	09/30/07	46.67
06/30/07	9.10	06/30/07	0.85	06/30/07	45.86



#### Zacks.com Quotes and Research

PIEDMO	ONT NAT GAS	S CO (NYSE)			Scottrade Scottrade
PNY	25.96	<b>△</b> 1.59	(6.52%)	Vol. 568,900	14:05 ET

Piedmont Natural Gas Co, Inc., is an energy and services company engaged in the transportation and sale of natural gas and the sale of propane to residential, commercial and industrial customers in North Carolina, South Carolina and Tennessee. The Company is the second-largest natural gas utility in the southeast. The Company and its nonutility subsidiaries and divisions are also engaged in acquiring, marketing and arranging for the transportation and storage of natural gas for large-volume purchasers, and in the sale of propane to customers in the Company's threestate service area.

#### **General Information**

PIEDMONT NAT GA 4720 Piedmont Row Drive Charlotte, NC 28210 Phone: 704 364-3120

Fax: 704 364-1395 Web: www.piedmontng.com

Email: margaret.griffith@piedmontng.com

Industry

**UTIL-GAS DISTR** 

Sector:

Utilities

Fiscal Year End

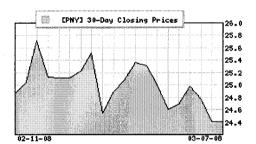
October

Last Reported Quarter Next EPS Date

01/31/08 03/11/2008

#### **Price and Volume Information**

Zacks Rank	in in
Yesterday's Close	24.37
52 Week High	27.98
52 Week Low	22.00
Beta	0.60
20 Day Moving Average	351,083.91
Target Price Consensus	28.33



%	Price	Change
---	-------	--------

% Price Change	% Price Change Relative to S&P 500
4 Week -1.97	4 Week 3.09
12 Week -5.83	12 Week 6.92
YTD -6.84	YTD 5.94

Share Information		Dividend Information	
Shares Outstanding	73 28	Dividend Yield	4.10%
(míllions)	10.20	Annual Dividend	\$1.00
Market Capitalization (millions)	1,785.76	Payout Ratio	0.00
Short Ratio	18.46	Change in Payout Ratio	0.00
Last Split Date	11/01/2004	Last Dividend Payout / Amount	12/20/2007 / \$0.25

#### **EPS Information**

Current Quarter EPS Consensus Estimate

Current Year EPS Consensus Estimate

Estimated Long-Term EPS Growth Rate

	Consensus Recommendations	
0.97	Current (1=Strong Buy, 5=Strong Sell)	2.50
1.50	30 Days Ago	2.50
5.50	60 Days Ago	2.80

2.80

#### Next EPS Report Date Eundamantal Datine

runuamentai Kauos					
P/E		<b>EPS Growth</b>		Sales Growth	
Current FY Estimate:	16.23	vs. Previous Year	-37.50%	vs. Previous Year	-1.48%
Trailing 12 Months:	17.41	vs. Previous Quarter	8.33%	vs. Previous Quarter:	23.88%
PEG Ratio	2.95				

03/11/2008 90 Days Ago

Price Ratios		ROE		ROA	
Price/Book	2.06	01/31/08	-	01/31/08	-
Price/Cash Flow	9.13	10/31/07	11.55	10/31/07	3.76
Price / Sales	-	07/31/07	11.77	07/31/07	3.86
Current Ratio		Quick Ratio		Operating Margin	
01/31/08	-	01/31/08	-	01/31/08	-
10/31/07	1.03	10/31/07	0.67	10/31/07	6.10
07/31/07	1.23	07/31/07	0.81	07/31/07	6.21
Net Margin		Pre-Tax Margin		Book Value	
<b>Net Margin</b> 01/31/08		Pre-Tax Margin 01/31/08	-		
•	- 9.93	•	9.93		- 11.86
01/31/08		01/31/08		01/31/08 10/31/07	- 11.86 12.18
01/31/08 10/31/07	9.93	01/31/08 10/31/07	9.93	01/31/08 10/31/07	-
01/31/08 10/31/07 07/31/07	9.93	01/31/08 10/31/07 07/31/07	9.93	01/31/08 10/31/07 07/31/07	-
01/31/08 10/31/07 07/31/07 Inventory Turnover	9.93 10.69	01/31/08 10/31/07 07/31/07 <b>Debt-to-Equity</b>	9.93	01/31/08 10/31/07 07/31/07 Debt to Captial	-

Page 1 of 2



Proven Ratings, Research & Recommendations

#### Zacks.com Quotes and Research

SOUT	H JERSEY II	ND (NYSE)			Scottrade
SJI	32.59	<b>.</b> 0.25	(0.77%)	Vol. 277,700	14:10 ET

South Jersey Inds Inc. is engaged in the business of operating, through subsidiaries, various business enterprises. The company's most significant subsidiary is South Jersey Gas Company (SJG). SJG is a public utility company engaged in the purchase, transmission and sale of natural gas for residential, commercial and industrial use. SJG also makes off-system sales of natural gas on a wholesale basis to various customers on the interstate pipeline system and transports natural gas.

#### **General Information**

SOUTH JERSEY IN 1 South Jersey Plaza Folsom, NJ 08037

Phone: 609 561-9000 Fax: 609 561-8225

Web: www.sjindustries.com

Email: investorrelations@sjindustries.com

Industry

**UTIL-GAS DISTR** 

Sector:

Utilities

Fiscal Year End

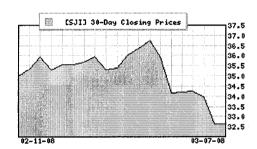
December

Last Reported Quarter Next EPS Date

12/31/07 05/06/2008

#### **Price and Volume Information**

Zacks Rank	À
Yesterday's Close	32.34
52 Week High	41.27
52 Week Low	31.20
Beta	0.71
20 Day Moving Average	178,990.50
Target Price Consensus	41.67



#### % Price Change

% Price Change	% Price Change Relative to S&P 500	
4 Week -7.65	4 Week -2.88	
12 Week -7.23	12 Week 5.34	
YTD -10.39	YTD 2.61	

Share Information		Dividend Information	
Shares Outstanding	29.62	Dividend Yield	3.34%
(millions)		Annual Dividend	\$1.08
Market Capitalization (millions)		Payout Ratio	0.63
Short Ratio	15.35	Change in Payout Ratio	0.09
Last Split Date	07/01/2005	Last Dividend Payout / Amount	03/06/2008 / \$0.27

#### **EPS Information**

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.91	Current (1=Strong Buy, 5=Strong Sell)	1.67
Current Year EPS Consensus Estimate	2.17	30 Days Ago	1.67
Estimated Long-Term EPS Growth Rate	7.50	60 Days Ago	2.00
Next EPS Report Date	05/06/2008	90 Days Ago	1.80

#### **Fundamental Ratios**

P/E		<b>EPS Growth</b>		Sales Growth	
Current FY Estimate:	14.93	vs. Previous Year	-8.70%	vs. Previous Year	3.88%
Trailing 12 Months:	18.91	vs. Previous Quarter	1,360.00%	vs. Previous Quarter:	66.46%
DEO D-6-	4.00				

PEG Ratio 1.99

ROE ROA **Price Ratios** 

Price/Book	1.99	12/31/07	10.82	12/31/07	3.38
Price/Cash Flow	10.10	09/30/07	11.31	09/30/07	3.44
Price / Sales	1.00	06/30/07	12.44	06/30/07	3.71
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	1.00	12/31/07	0.61	12/31/07	5.30
09/30/07	0.94	09/30/07	0.47	09/30/07	5.52
06/30/07	0.97	06/30/07	0.54	06/30/07	6.09
Net Margin		Pre-Tax Margin		Book Value	
12/31/07	10.96	12/31/07	10.96	12/31/07	16.27
09/30/07	6.32	09/30/07	6.32	09/30/07	16.00
06/30/07	7.70	06/30/07	7.70	06/30/07	16.05
Inventory Turnover		Debt-to-Equity		Debt to Captial	
12/31/07	5.72	12/31/07	0.74	12/31/07	42.69
09/30/07	3.19	09/30/07	0.76	09/30/07	43.14
06/30/07	3.09	06/30/07	0.76	06/30/07	43.22

Page 1 of 2



Proven Ratings, Research & Recommendations

#### Zacks.com Quotes and Research

WGL HOLDINGS INC (NYSE) Scottrade					Scottrade
WGL	31.15	<b>▲</b> 0.37	(1.20%)	Vol. 644,700	13:07 ET

WASHINGTON GAS LIGHT CO is a public utility that delivers and sells natural gas to metropolitan Washington, D.C. and adjoining areas in Maryland and Virginia. A distribution subsidiary serves portions of Virginia and West Virginia. The Company has four wholly-owned active subsidiaries that include: Shenandoah Gas Company (Shenandoah) is engaged in the delivery and sale of natural gas at retail in the Shenandoah Valley, including Winchester, Middletown, Strasburg, Stephens City and New Market, Virginia, and Martinsburg, West Virginia.

#### **General Information**

WGL HLDGS INC 101 Constitution Ave, N.W Washington, DC 20080 Phone: 703 750-2000 Fax: 703 750-4828

Web: www.wglholdings.com Email: madams@washgas.com

Industry

**UTIL-GAS DISTR** 

Sector:

Utilities

Fiscal Year End Last Reported Quarter September 12/31/07

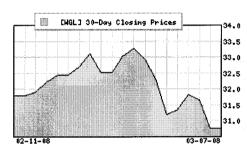
Next EPS Date

04/24/2008

#### **Price and Volume Information**

Zacks Rank	İ
Yesterday's Close	30.78
52 Week High	35.91
52 Week Low	29.79
Beta	0.73
20 Day Moving Average	615,432.81
Target Price Consensus	35.25





#### % Price Change Relative to S&P 500

4 Week	-4.44	4 Week	-1.64
12 Week	-4.44	12 Week	8.46
YTD	-6.04	YTD	6.67

Share Information		Dividend Information	
Shares Outstanding	49.46	Dividend Yield	4.45%
(millions)	10.70	Annual Dividend	\$1.37
Market Capitalization (millions)	1,522.50	Payout Ratio	0.64
Short Ratio	6.93	Change in Payout Ratio	-0.05
Last Split Date	05/02/1995	Last Dividend Payout / Amount	01/08/2008 / \$0.34

#### **EPS Information** Current Quarter EP

% Price Change

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	1.41	Current (1=Strong Buy, 5=Strong Sell)	2.20
Current Year EPS Consensus Estimate	2.35	30 Days Ago	2.60
Estimated Long-Term EPS Growth Rate	4.00	60 Days Ago	2.50
Next EPS Report Date	04/24/2008	90 Days Ago	2.50

#### **Fundamental Ratios**

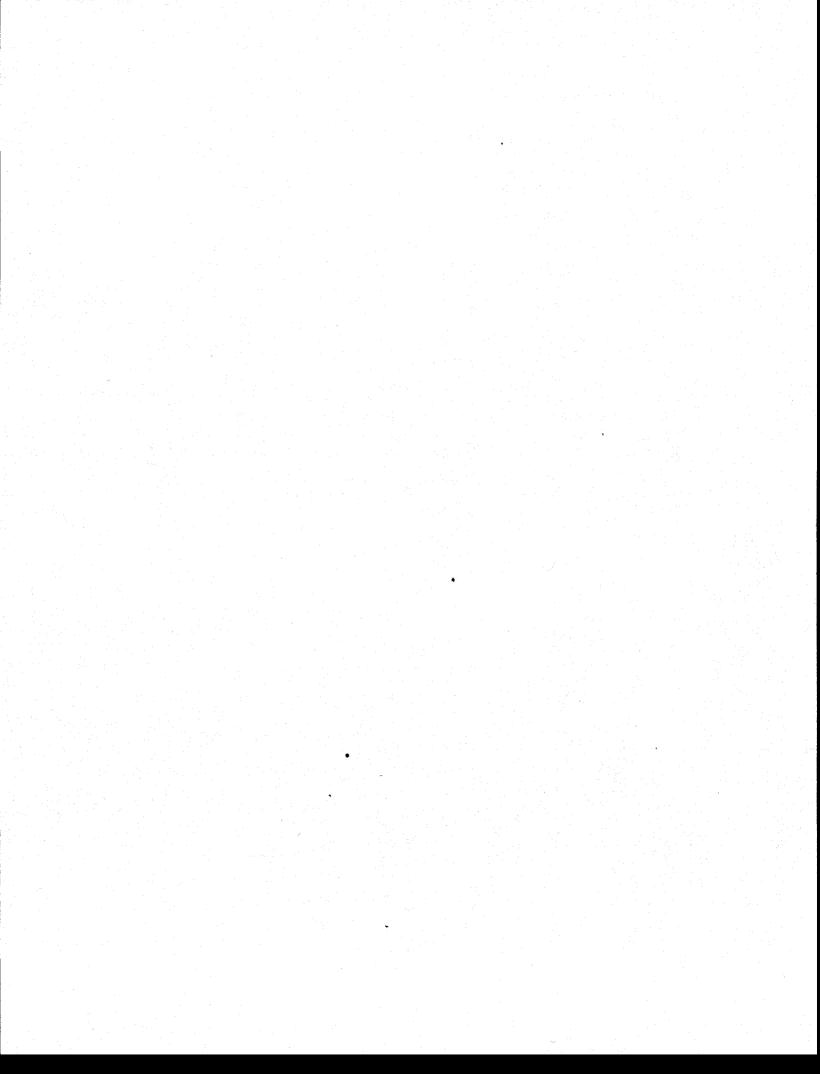
P/E		<b>EPS Growth</b>		Sales Growth	
Current FY Estimate:	13.09	vs. Previous Year	4.35%	vs. Previous Year	2.55%
Trailing 12 Months:	14.38	vs. Previous Quarter	409.68%	vs. Previous Quarter:	130.78%
PEG Ratio	3.27				

**Price Ratios** 

ROE

**ROA** 

Price/Book	1.50	12/31/07	10.53	12/31/07	3.41
Price/Cash Flow	7.55	09/30/07	10.41	09/30/07	3.42
Price / Sales	0.57	06/30/07	11.26	06/30/07	3.72
Current Ratio		Quick Ratio		Operating Margin	
12/31/07	0.88	12/31/07	-	12/31/07	3.96
09/30/07	1.03	09/30/07	0.47	09/30/07	3.89
06/30/07	1.15	06/30/07	0.72	06/30/07	4.15
Net Margin		Pre-Tax Margin		Book Value	
12/31/07	6.81	12/31/07	6.81	12/31/07	20.49
09/30/07	6.73	09/30/07	6.73	09/30/07	19.89
06/30/07	7.27	06/30/07	7.27	06/30/07	20.50
Inventory Turnover		Debt-to-Equity		Debt to Captial	
12/31/07	9.33	12/31/07	0.59	12/31/07	36.30
09/30/07	8.69	09/30/07	0.63	09/30/07	37.92
06/30/07	12.06	06/30/07	0.60	06/30/07	36.86



# **ATTACHMENT C**

	Recent (3/19/08)	3 Months Ago (12/19/07)	Year Ago (3/21/07)		Recent (3/19/08)	3 Months Ago (12/19/07)	Year Ago (3/21/07)
TAXABLE							
Market Rates				Mortgage-Backed Securities			
Discount Rate	2.50	4.75	6.25	GNMA 6.5%	4.70	5.42	5.53
Federal Funds	2.25	4.25	5.25	FHLMC 6.5% (Gold)	4.96	5.62	5.60
Prime Rate	5.25	7.25	8.25	FNMA 6.5%	4.62	5.41	5.50
30-day CP (A1/P1)	2.65	5.59	5.24	FNMA ARM	5.07	5.46	5.60
3-month LIBOR	2.60	4.91	5.35	Corporate Bonds			
Bank CDs				Financial (10-year) A	5.89	6.01	5.40
6-month	2.15	2.82	3.26	Industrial (25/30-year) A	5.87	5.99	5.68
1-year	2.16	3.45	3.87	Utility (25/30-year) A	5.96	6.14	5.86
5-year	3.12	3.74	3.92	Utility (25/30-year) Baa/BBB	6.14	6.24	6.01
U.S. Treasury Securities				Foreign Bonds (10-Year)			
3-month	0.56	2.89	5.03	Canada	3.45	3.99	4.08
6-month	1.20	3.31	5.07	Germany	3.76	4.28	3.93
1-year	1.40	3.31	4.94	Japan	1.28	1.49	1.57
5-year	2.30	3.43	4.43	United Kingdom	4.31	4.68	4.83
10-year	3.33	4.03	4.54	Preferred Stocks			
10-year (inflation-protect	ed) 0.90	1.71	2.12	Utility A	6.34	6.33	6.08
30-year	4.21	4.45	4.72	Financial A	7.91	8.18	6.44
30-year Zero	4.35	4.47	4.68	Financial Adjustable A	5.47	5.47	5.47
Treasury Secur	- ity Viold	Curva		TAX-EXEMPT			
5.00%	ity rieiu	Curve	1	Bond Buyer Indexes			
7.00%	1			20-Bond Index (GOs)	4.94	4,46	4.13
			·	25-Bond Index (Revs)	5.15	4.79	4.38
5.00%				General Obligation Bonds (GG	Os)		
				1-year Aaa	1.80	2.85	3.54
.00% -				1-year A	1.90	2.90	3.64
				5-year Aaa	2.87	3.19	3.51
.00% -				5-year A	3.17	3.49	3.80
				10-year Aaa	3.73	3.62	3.65
				10-year A	4.02	3.91	3.95
2.00%				25/30-year Aaa	4.92	4.33	4.00
				25/30-year A	5.05	4.44	4.30
.00% -		—Cur	rant	Revenue Bonds (Revs) (25/30-Ye	ear)		
/		1		Education AA	5.10	4.50	4.33
0.00%		— Yea		Electric AA	5.10	4.50	4.30
3 6 1 2 3 5	10		30	Housing AA	5.40	4.80	4.55
Mos. Years				Hospital AA	5.50	4.75	4.57
				T 0 D 4 A		4.00	

# Federal Reserve Data

Toll Road Aaa

5.10

4.60

4.40

#### **BANK RESERVES**

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last			
	3/12/08	2/27/08	Change	12 Wks.	26 Wks.	52 Wks.	
Excess Reserves	1413	1799	-386	1655	1640	1883	
Borrowed Reserves	231	198	33	1634	1181	736	
Net Free/Borrowed Reserves	1182	1601	-419	21	459	1147	

#### **MONEY SUPPLY**

(One-Week Period; in Billions, Seasonally Adjusted)

·		Recent Levels		Growth Rates Over the La		
	3/3/08	2/25/08	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1391.8	1367.8	24.0	6.1%	-0.4%	1.6%
M2 (M1+savings+small time deposits)	7644.7	7630.3	14.4	12.2%	8.3%	7.3%

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Years

# Selected Yields

	Recent (3/12/08)	3 Months Ago (12/12/07)	Year Ago (3/14/07)		Recent (3/12/08)	3 Months Ago (12/12/07)	Year Ago (3/14/07)
TAXABLE					****		
Market Rates				Mortgage-Backed Securities			
Discount Rate	3.50	4.75	6.25	GNMA 6.5%	5.02	5.54	5.59
Federal Funds	3.00	4.25	5.25	FHLMC 6.5% (Gold)	5.04	5.67	5.66
Prime Rate	6.00	7.25	8.25	FNMA 6.5%	4.94	5.53	5.57
30-day CP (A1/P1)	2.84	5.10	5.25	FNMA ARM	5.07	5.46	5.60
3-month LIBOR	2.85	5.06	5.35	Corporate Bonds			
Bank CDs				Financial (10-year) A	6.05	6.26	5.40
6-month	2.17	2.82	3.20	Industrial (25/30-year) A	6.07	6.15	5.65
1-year	2.17	3.45	3.80	Utility (25/30-year) A	6.08	6.25	5.85
5-year U.S. Treasury Securities	3.16	3.74	3.91	Utility (25/30-year) Baa/BBB Foreign Bonds (10-Year)	6.27	6.35	5.99
3-month	1.41	2.86	5.04	Canada	3.53	4.03	4.02
6-month	1.53	3.22	5.09	Germany	3.77	4.31	3.88
1-year	1.67	3.09	4.90	Japan	1.35	1.52	1.58
5-year	2.46	3.47	4.45	United Kingdom	4.42	4.80	4.74
10-year	3.46	4.09	4.53	Preferred Stocks			
10-year (inflation-protected	1) 0.84	1.78	2.17	Utility A	6.61	6.35	6.03
30-year	4.41	4.54	4.70	Financial A	7.83	7.80	6.42
30-year Zero	4.57	4.58	4.66	Financial Adjustable A	5.46	5.46	5.46
Trooguery Cooneid	by Viold	Crawa	T/	AX-EXEMPT			
Treasury Securit	ly rieiu	Curve		Bond Buyer Indexes			
5.00%				20-Bond Index (GOs)	4.92	4.38	4.08
				25-Bond Index (Revs)	5.11	4.74	4.39
5.00%				General Obligation Bonds (G	Os)		
				1-year Aaa	2.05	2.90	3.54
				1-year A	2.20	3.00	3.64
.00% –				5-year Aaa	2.83	3.19	3.51
				5-year A	2.93	3.29	3.60
/	T			10-year Aaa	3.66	3.63	3.66
3.00% -			}	10-year A	3.86	3.93	4.18
				25/30-year Aaa	4.85	4.37	4.00
2.00% -				25/30-year A	5.04	4.57	4.30
		— Curi	rent	Revenue Bonds (Revs) (25/30-Ye	ear)		
		- Year		Education AA	5.05	4.65	4.30
1	1	rea	I-Ago				

# Federal Reserve Data

Electric AA

Housing AA

Hospital AA

Toll Road Aaa

#### **BANK RESERVES** (Two-Week Period; in Millions, Not Seasonally Adjusted) Average Levels Over the Last... **Recent Levels** 2/27/08 2/13/08 Change 26 Wks. 52 Wks. **Excess Reserves** 1800 1660 140 1615 1896 1714 Borrowed Reserves 198 102 96 1630 1276 729 Net Free/Borrowed Reserves 1602 1558 44 84 339 1167 **MONEY SUPPLY** (One-Week Period; in Billions, Seasonally Adjusted)

		Recent Levels		Growth Rates Over the Last			
	2/25/08	2/18/08	Change	3 Mos.	6 Mos.	12 Mos.	
M1 (Currency+demand deposits)	1368.0	1360.7	7.3	2.4%	-0.3%	0.2%	
M2 (M1+savings+small time deposits)	7630.3	7597.2	33.1	10.7%	7.2%	7.0%	

4.70

4.80

4.85

4.70

4.30

4.50

4.50

4.30

5.10

5.35

5.40

	Recent (3/05/08)	3 Months Ago (12/05/07)	Year Ago (3/07/07)		Recent (3/05/08)	3 Months Ago (12/05/07)	Year Ago (3/07/07)
TAXABLE							
Market Rates				Mortgage-Backed Securities			
Discount Rate	3.50	5.00	6.25	GNMA 6.5%	4.80	5.25	5.55
Federal Funds	3.00	4.50	5.25	FHLMC 6.5% (Gold)	5.36	5.42	5.64
Prime Rate	6.00	7.50	8.25	FNMA 6.5%	5.02	5.25	5.56
30-day CP (A1/P1)	2.97	5.23	5.24	FNMA ARM	5.05	5.44	5.60
3-month LIBOR	3.00	5.15	5.34	Corporate Bonds			
Bank CDs				Financial (10-year) A	5.96	5.92	5.31
6-month	2.16	2.82	3.28	Industrial (25/30-year) A	6.35	5.96	5.60
1-year	2.16	3.45	3.89	Utility (25/30-year) A	6.26	6.07	5.59
5-year	3.16	3.80	3.93	Utility (25/30-year) Baa/BBB	6.39	6.22	5.86
U.S. Treasury Securities				Foreign Bonds (10-Year)			
3-month	1.49	3.05	5.08	Canada	3.64	3.93	3.99
6-month	1.72	3.24	5.07	Germany	3.86	4.03	3.92
1-уеаг	1.72	3.11	4.92	Japan	1.38	1.50	1.63
5-year	2.57	3.32	4.43	United Kingdom	4.48	4.49	4.77
10-year	3.67	3.96	4.49	Preferred Stocks			
10-year (inflation-protected	d) 1.02	1.70	2.16	Utility A	6.26	6.25	6.01
30-year	4.60	4.44	4.63	Financial A	7.60	7.73	6.46
30-year Zero	4.78	4.49	4.57	Financial Adjustable A	5.53	5.53	5.53
Treasury Securi	— tv Vield	Curve	-	TAX-EXEMPT			
7.00%	ty 11clu	Cuive		Bond Buyer Indexes			
				20-Bond Index (GOs)	5.11	4.39	4.10
5.00%				25-Bond Index (Revs)	5.22	4.77	4.41
				General Obligation Bonds (G			
5.00%				1-year Aaa	2.25	3.00	3.53
				1-year A	2.35	3.04	3.63
4.00% -				5-year Aaa	3.30	3.18	3.49
				5-year A	3.60	3.48	3.78
3.00% -				10-year Aaa	4.11	3.57	3.64
				10-year A	4.40	3.86	3.94
2.00% -				25/30-year Aaa	5.10	4.29	3.96
				25/30-year A	5.23	4.40	4.25
1.00% -		—Cur	rent	Revenue Bonds (Revs) (25/30-Ye	•		
		— Yea		Education AA	5.30	4.45	4.30
0.00%	10	1 Ca		Electric AA	5.30	4.45	4.25
3 6 1 2 3 5 Mos. Years	10		30	Housing AA	5.60	4.70	4.50
MOS. I CAIS			ŀ	Hospital AA	5.70	4.65	4.50

# Federal Reserve Data

Toll Road Aaa

#### **BANK RESERVES** (Two-Week Period; in Millions, Not Seasonally Adjusted) Average Levels Over the Last... **Recent Levels** 2/27/08 2/13/08 Change 12 Wks. 26 Wks. 52 Wks. Excess Reserves 1807 1661 146 1715 1615 1897 Borrowed Reserves 198 102 96 1630 1276 729 Net Free/Borrowed Reserves 1609 1559 50 1168 **MONEY SUPPLY** (One-Week Period; in Billions, Seasonally Adjusted)

		Recent Levels		Growth Rates Over the Last			
	2/18/08	2/11/08	Change	3 Mos.	6 Mos.	12 Mos.	
M1 (Currency+demand deposits)	1360.8	1357.5	3.3	1.1%	0.1%	-0.2%	
M2 (M1+savings+small time deposits)	7597.0	7584.4	12.6	10.7%	7.6%	6.9%	

5.30

4.65

	Recent (2/27/08)	3 Months Ago (11/28/07)	Year Ago (2/28/07)		Recent (2/27/08)	3 Months Ago (11/28/07)	Year Ago (2/28/07)
TAXABLE				l			
Market Rates				Mortgage-Backed Securities			
Discount Rate	3.50	5.00	6.25	GNMA 6.5%	5.04	5.39	5.63
Federal Funds	3.00	4.50	5.25	FHLMC 6.5% (Gold)	5.21	5.61	5.73
Prime Rate	6.00	7.50	8.25	FNMA 6.5%	5.12	5.41	5.63
30-day CP (A1/P1)	3.21	4.65	5.23	FNMA ARM	5.19	5.87	5.60
3-month LIBOR	3.09	5.08	5.35	Corporate Bonds			
Bank CDs				Financial (10-year) A	5.81	5.94	5.38
6-month	2.19	2.82	3.28	Industrial (25/30-year) A	6.41	5.87	5.62
1-year	2.17	3.54	3.88	Utility (25/30-year) A	6.20	6.03	5.65
5-year	3.06	3.88	3.92	Utility (25/30-year) Baa/BBB	6.48	6.11	5.89
U.S. Treasury Securities				Foreign Bonds (10-Year)	55	• • • • • • • • • • • • • • • • • • • •	0.00
3-month	1.96	3.03	5.12	Canada	3.82	4.06	4.03
6-month	2.01	3.36	5.11	Germany	4.09	4.11	3.96
1-year	2.07	3.26	4.93	Japan	1.48	1.49	1.64
5-year	2.89	3.50	4.52	United Kingdom	4.70	4.68	4.80
10-year	3.85	4.04	4.57	Preferred Stocks			1.00
10-year (inflation-protected		1.70	2.19	Utility A	6.10	6.31	5.99
30-year	4.65	4.42	4.68	Financial A	7.12	7.84	6.44
30-year Zero	4.78	4.45	4.61	Financial Adjustable A	5.53	5.53	5.53
Trongues Consti	w Viold	Currio	TA	X-EXEMPT			
Treasury Securit	y i ieiu	Curve		Bond Buyer Indexes			
5.00%				20-Bond Index (GOs)	4.66	4.45	4.19
				25-Bond Index (Revs)	4.94	4.80	4.48
				General Obligation Bonds (G	Os)		
				1-year Aaa	2.20	3.25	3.56
.50%	ļ			1-year A	2.35	3.35	3.66
	_			5-year Aaa	3.13	3.27	3.55
		=		5-year A	3.23	3.37	3.64
				10-year Aaa	3.92	3.64	3.67
				10-year A	4.12	3.94	4.20
5.00% -				25/30-year Aaa	4.94	4.38	3.97
				25/30-year A	5.14	4.58	4.28
			<del></del>	Revenue Bonds (Revs) (25/30-Y		4.50	7.20
<del>                                      </del>		—Cur	1 1	Education AA	5.15	4.65	4.39
.50%		— Yea	r-Ago	Electric AA	5.20	4.05	4.38
3 6 1 2 3 5 1	0		30	Housing AA	5.45	4.75	4.30
Mos. Years				Hospital AA	5.43	4.00	4.44

# Federal Reserve Data

Hospital AA

Toll Road Aaa

5.50

5.20

4.85

4.75

4.45

4.39

#### **BANK RESERVES** (Two-Week Period; in Millions, Not Seasonally Adjusted) Recent Levels Average Levels Over the Last... Change 52 Wks. 2/13/08 1/30/08 12 Wks. 26 Wks. **Excess Reserves** 1661 1446 215 1670 2152 1875 **Borrowed Reserves** 102 390 -288 1676 1281 723 Net Free/Borrowed Reserves 1559 1056 503 872 1153 **MONEY SUPPLY** (One-Week Period; in Billions, Seasonally Adjusted)

		Recent Leveis		Growth Rates Over the Last			
	2/11/08	2/4/08	Change	3 Mos.	6 Mos.	12 Mos.	
M1 (Currency+demand deposits)	1358.2	1382.5	-24.3	-2.0%	-0.2%	-0.7%	
M2 (M1+savings+small time deposits)	7585.5	7569.2	16.3	11.0%	8.2%	6.8%	

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/	Recent (2/20/08)	3 Months Ago (11/20/07)	Year Ago (2/21/07)		Recent (2/20/08)	3 Months Ago (11/20/07)	Year Ago (2/21/07)
TAXABLE						***************************************	
Market Rates				Mortgage-Backed Securities			
Discount Rate	3.50	5.00	6.25	GNMA 6.5%	5.10	5.50	5.67
Federal Funds	3.00	4.50	5.25	FHLMC 6.5% (Gold)	5.31	5.77	5.75
Prime Rate	6.00	7.50	8.25	FNMA 6.5%	5.09	5.56	5.67
30-day CP (A1/P1)	3.05	4.59	5.23	FNMA ARM	5.19	5.88	5.61
3-month LIBOR	3.08	5.00	5.36	Corporate Bonds			
Bank CDs				Financial (10-year) A	5.82	6.01	5.51
6-month	2.20	2.83	3.27	Industrial (25/30-year) A	6.29	5.96	5.72
1-year	2.19	3.54	3.88	Utility (25/30-year) A	6.15	6.04	5.74
5-year	2.82	3.89	3.92	Utility (25/30-year) Baa/BBB	6.33	6.14	5.97
U.S. Treasury Securities				Foreign Bonds (10-Year)	5,55	0.11	0.07
3-month	2.22	3.28	5.17	Canada	3.93	4.07	4.10
6-month	2.15	3.42	5.14	Germany	4.03	4.06	4.05
1-year	2.11	3.43	5.04	Japan	1.43	1.47	1.70
5-year	2.98	3.55	4.68	United Kingdom	4.69	4.62	4.89
10-year	3.89	4.10	4.69	Preferred Stocks	1,00	1.02	7.00
10-year (inflation-protecte		1.70	2.33	Utility A	6.08	6.62	6.16
30-year	4.61	4.50	4.79	Financial A	7.00	7.97	6.44
30-year Zero	4.76	4.53	4.71	Financial Adjustable A	5.52	5.52	5.52
Transpury Consu	tr. Viald	Carrer		TAX-EXEMPT			
Treasury Securi	ity rieiu	Curve		Bond Buyer Indexes			
6.00%				20-Bond Index (GOs)	4.47	4.53	4.17
			[	25-Bond Index (Revs)	4.82	4.85	4.51
				General Obligation Bonds (G	Os)		
				1-year Aaa	1.70	3.30	3.58
4.50%				1-year A	1.80	3.34	3.68
				5-year Aaa	2.80	3.34	3.61
				5-year A	3.10	3.64	3.90
				10-year Aaa	3.55	3.71	3.73
				10-year A	3.84	4.00	3.15
3.00% -				25/30-year Aaa	4.64	4.47	4.06
			1	25/30-year A	4.77	4.62	4.38
				Revenue Bonds (Revs) (25/30-Ye			1.00
		—Cur		Education AA	4.80	4.67	4.40
1.50%		— Yea		Electric AA	4.80	4.67	4.35
3 6 1 2 3 5	10		30	Housing AA	5.10	4.90	4.60
Mos. Years			ina	Hospital AA	5.15	4.85	4.60
				Tall Daniel Ann	3.13	7.00	4.00

# Federal Reserve Data

Toll Road Aaa

4.80

4.67

4.48

#### **BANK RESERVES** (Two-Week Period; in Millions, Not Seasonally Adjusted) Recent Levels Average Levels Over the Last... 2/13/08 1/30/08 12 Wks. 26 Wks. 52 Wks. Change **Excess Reserves** 1459 1671 1876 1663 204 2153 Borrowed Reserves 102 390 -288 1676 1281 723 Net Free/Borrowed Reserves 1561 1069 492 -5 872 1153 **MONEY SUPPLY** (One-Week Period; in Billions, Seasonally Adjusted) **Recent Levels** Growth Rates Over the Last... 2/4/08 1/28/08 Change 3 Mos. 6 Mos. 12 Mos. M1 (Currency+demand deposits) 1382.7 1362.6 20.1 2.3% 2.5% 0.5% M2 (M1+savings+small time deposits) 7569.4 7535.6 33.8 10.0% 8.2% 6.6%

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	Recent (2/13/08)	3 Months Ago (11/14/07)	Year Ago (2/14/07)		Recent (2/13/08)	3 Months Ago (11/14/07)	Year Ago (2/14/07)
TAXABLE							
Market Rates				Mortgage-Backed Securities			
Discount Rate	3.50	5.00	6.25	GNMA 6.5%	4.46	5.53	5.72
Federal Funds	3.00	4.50	5.25	FHLMC 6.5% (Gold)	5.10	5.73	5.82
Prime Rate	6.00	7.50	8.25	FNMA 6.5%	4.71	5.51	5.74
30-day CP (A1/P1)	3.00	4.56	5.23	FNMA ARM	5.18	5.90	5.62
3-month LIBOR	3.07	4.88	5.36	Corporate Bonds			
Bank CDs				Financial (10-year) A	5.78	5.95	5.52
6-month	2.15	2.83	3.27	Industrial (25/30-year) A	6.29	5.98	5.77
1-year	2.34	3.54	3.86	Utility (25/30-year) A	6.20	6.09	5.77
5-year	2.85	3.89	3.91	Utility (25/30-year) Baa/BBB	6.35	6.18	6.02
U.S. Treasury Securities				Foreign Bonds (10-Year)	5,55	57.5	0.02
3-month	2.26	3.39	5.15	Canada	3.87	4.21	4.15
6-month	2.09	3.68	5.14	Germany	3.96	4.15	4.10
1-year	2.06	3.68	5.10	Japan	1.43	1.53	1.74
5-year	2.73	3.82	4.72	United Kingdom	4.62	4.74	4.95
10-year	3.73	4.25	4.74	Preferred Stocks	1.02		1.00
10-year (inflation-protect		1.86	2.39	Utility A	6.13	6.43	6.14
30-year	4.54	4.60	4.83	Financial A	7.00	7.58	6.43
30-year Zero	4.65	4.62	4.76	Financial Adjustable A	5.51	5.51	5.51
Two convey Co conv	.:4 Viald	Curre	T#	XX-EXEMPT			
Treasury Secur	ity rieiu	Curve	·	Bond Buyer Indexes			
5.00%				20-Bond Index (GOs)	4.33	4.54	4.21
				25-Bond Index (Revs)	4.72	4.85	4.53
	1			General Obligation Bonds (G			
				1-year Aaa	1.05	3.30	3.60
4.50% -	1			1-year A	1.15	3.40	3.70
1.50% -				1-year A 5-year Aaa	1.15 2.67	3.40 3.44	3.70 3.63
4.50% -				5-year Aaa	2.67	3.44	3.63
4.50% -				5-year Aaa 5-year A	2.67 2.77	3.44 3.74	3.63 3.72
				5-year Aaa 5-year A 10-year Aaa	2.67 2.77 3.40	3.44 3.74 3.83	3.63 3.72 3.78
				5-year Aaa 5-year A 10-year Aaa 10-year A	2.67 2.77 3.40 3.60	3.44 3.74 3.83 4.13	3.63 3.72 3.78 4.30
				5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa	2.67 2.77 3.40 3.60 4.36	3.44 3.74 3.83 4.13 4.55	3.63 3.72 3.78 4.30 4.08
				5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa 25/30-year A	2.67 2.77 3.40 3.60 4.36 4.56	3.44 3.74 3.83 4.13	3.63 3.72 3.78 4.30
		— Cur.		5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa 25/30-year A <b>Revenue Bonds (Revs) (25/30-ye</b>	2.67 2.77 3.40 3.60 4.36 4.56	3.44 3.74 3.83 4.13 4.55 4.75	3.63 3.72 3.78 4.30 4.08 4.39
3.00% -		— Cur. — Yea		5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa 25/30-year A <b>Revenue Bonds (Revs) (25/30-ye</b> Education AA	2.67 2.77 3.40 3.60 4.36 4.56 ear)	3.44 3.74 3.83 4.13 4.55 4.75	3.63 3.72 3.78 4.30 4.08 4.39
3.00% - 1.50% 3 6 1 2 3 5	10			5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa 25/30-year A <b>Revenue Bonds (Revs) (25/30-ye</b> Education AA Electric AA	2.67 2.77 3.40 3.60 4.36 4.56 ear) 4.60 4.65	3.44 3.74 3.83 4.13 4.55 4.75 4.75	3.63 3.72 3.78 4.30 4.08 4.39 4.49 4.48
3.00% - 1.50% 3 6 1 2 3 5 Mos. Years	10		r-Ago	5-year Aaa 5-year A 10-year Aaa 10-year A 25/30-year Aaa 25/30-year A <b>Revenue Bonds (Revs) (25/30-ye</b> Education AA	2.67 2.77 3.40 3.60 4.36 4.56 ear)	3.44 3.74 3.83 4.13 4.55 4.75	3.63 3.72 3.78 4.30 4.08 4.39

# Federal Reserve Data

BANK	RESERVES
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(Two-Week Period; in Millions, Not Seasonally Adjusted)

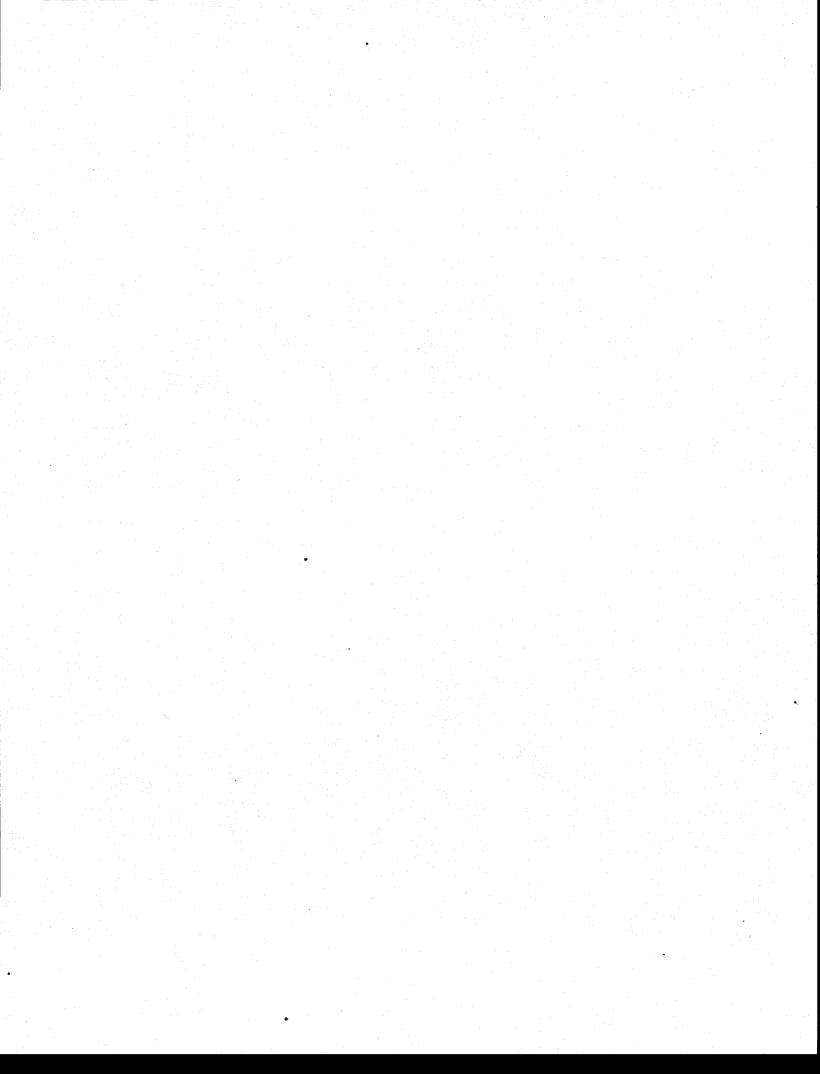
	Recent Levels			Average Levels Over the Last			
	1/30/08	1/16/08	Change	12 Wks.	26 Wks.	52 Wks.	
Excess Reserves	1458	1712	-254	1700	2144	1861	
Borrowed Reserves	390	1377	-987	1699	1291	729	
Net Free/Borrowed Reserves	1068	335	733	1	854	1132	

#### **MONEY SUPPLY**

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last		
	1/28/08	1/21/08	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1362.3	1372.1	-9.8	-2.1%	-1.0%	-1.0%
M2 (M1+savings+small time deposits)	7529.2	7491.6	37.6	6.8%	6.9%	6.0%

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# SOUTHWEST GAS CORPORATION DOCKET NO. G-01551A-07-0504 TABLE OF CONTENTS TO SCHEDULES WAR

# SCHEDULE #

COST OF CAPITAL SUMMARY	DCF COST OF EQUITY CAPITAL	DIVIDEND YIELD CALCULATION	DIVIDEND GROWTH RATE CALCULATION	DIVIDEND GROWTH COMPONENTS	GROWTH RATE COMPARISON	CAPM COST OF EQUITY CAPITAL	ECONOMIC INDICATORS - 1990 TO PRESENT	CAPITAL STRUCTURES OF SAMPLE COMPANIES
WAR - 1	WAR - 2	WAR - 3	WAR - 4	WAR - 5	WAR - 6	WAR - 7	WAR - 8	WAR - 9

### **TEST YEAR ENDED APRIL 30, 2007** SOUTHWEST GAS CORPORATION COST OF CAPITAL SUMMARY

**DOCKET NO. G-01551A-07-0504** SCHEDULE WAR - 1 **PAGE 1 0F 4** 

# WEIGHTED COST OF CAPITAL

(C)	WEIGHTED COST	4.06%	0.33%	4.44%	
(B)	COST	7.96%	8.20%	9.88%	
(A)	CAPITAL RATIO	51.00%	4.00%	45.00%	100.00%
	DESCRIPTION	1 LONG-TERM DEBT	PREFERRED EQUITY	3 COMMON EQUITY	4 TOTAL CAPITALIZATION
	LINE NO.	~	7	က	4

WEIGHTED COST OF CAPITAL 2

### REFERENCES:

COLUMN (A): COMPANY SCHEDULE D-1 COLUMN (B): TESTIMONY, WAR COLUMN (C): COLUMN (A) × COLUMN (B) COLUMN (C) LINE 5: SUM OF COLUMN (C) LINES 1 THRU 3

### **TEST YEAR ENDED APRIL 30, 2007** SOUTHWEST GAS CORPORATION COST OF CAPITAL SUMMARY

**DOCKET NO. G-01551A-07-0504** SCHEDULE WAR - 1 PAGE 2 OF 4

# WEIGHTED COST OF DEBT

(D)	WEIGHTED COST	7.44%	0.52%	
(C)	COST	8.11%	6.27%	
(B)	CAPITAL	91.74%	8.26%	100.00%
<b>(A)</b>	NET PROCEEDS	\$ 590,463,378	53,169,199	\$ 643,632,577
	DESCRIPTION	TOTAL DEBENTURES AND MTN'S (FIXED RATE) \$ 590,463,378	TERM FACILITY (VARIABLE RATE)	3 TOTAL CAPITALIZATION
	LINE NO	_	7	က

# 4 WEIGHTED COST OF DEBT

REFERENCES:

COLUMN (A): COMPANY SCHEDULE D-2 COLUMN (B): COLUMN (A), LINES 1 AND 2 / COLUMN (A), LINE 3 COLUMN (C): SCHEDULE WAR-1, PAGE 3 COLUMN (D): COLUMN (B) x COLUMN (C)

# WEIGHTED COST OF DEBT

( <del>J</del>	COST OF	DEBT	0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.091.670	15,472,475	\$ 38,690,300		1,908,694	1,951,192	1,983,644	1,224,459	515,762	1,597,277	\$ 9,181,028	\$ 47,871,328	3,332,516
(E)	EFFECTIVE INTEREST	RATE	6000		7.79%	8.30% \$		2.68%	7.86%	8.00%	7.00%	6.88%	6.40%	7.38% \$	8.11% \$	6.27% \$
<u>(</u> )	, Lu	PROCEEDS	68 040 620	198,514,134	198,619,706	\$ 466,044,469		\$ 24,852,785	24,824,321	24,795,545	17,492,269	7,496,542	24,957,447	\$ 124,418,909	\$ 590,463,378	\$ 53,169,199
Ó	UNAMORTIZED	AND DISCOUNT	6 080 374	1,485,867	1,380,294	8,955,531		147,215	175,679	204,455	7,731	3,458	42,553	581,091	9,536,622	
		≩¦ 	<b>€</b>	• • •	9	<b>∞</b>		\$ 00	0	0	0	0	0	<del>s</del>  o	<b>↔</b> 0	
(B)	PRINCIPPAL AMOLINT	INTEREST	\$ 75,000,000	200,000,000	200,000,000	\$ 475,000,000		\$ 25,000,000	25,000,000	25,000,000	17,500,000	7,500,000	25,000,000	\$ 125,000,000	\$ 600,000,000	
( <b>y</b> )		DESCRIPTION	DEBENTURES 8 0%, DEBENTI IDE DI IE 2026	8.375 NOTE, DUE 2011	7.625 NOTE, DUE 2012	TOTAL DEBENTURES	MEDIUM TERM NOTES	7.59% MTN, DUE 2017	TOTAL MEDIUM TERM NOTES	TOTAL DEBENTURES AND MTN'S	TERM FACILITY					
	II.	S S	<del>-</del>	- 2	က	4		2	9	7	∞	0	9	Ξ	12	13

REFERENCES:
COLUMN (A) LINES 1 THRU 12: COMPANY SCHEDULE D-2, PAGE 2
COLUMN (B) LINES 1 THRU 12: COMPANY SCHEDULE D-2, PAGE 2
COLUMN (C) LINES 1 THRU 12: COMPANY SCHEDULE D-2, PAGE 2 COLUMN (D) LINE 13: COMPANY SCHEDULE D-2, PAGE 3 COLUMN (E) LINES 1 THRU 13: COLUMN (F) / COLUMN (D) COLUMN (F) LINES 1 THRU 12: COMPANY SCHEDULE D-2, PAGE 2 COLUMN (F) LINE 13: COMPANY SCHEDULE D-2, PAGE 3 COLUMN (D) LINES 1 THRU 12: COLUMN (B) - COLUMN (C)

# SOUTHWEST GAS CORPORATION TEST YEAR ENDED APRIL 30, 2007 COST OF CAPITAL SUMMARY

DOCKET NO. G-01551A-07-0504 SCHEDULE WAR - 1 PAGE 4 OF 4

# **COST OF COMMON EQUITY CALCULATION**

### DCF METHODOLOGY

MODEL ESTIMATE	
DCF - CONSTANT GROWTH MODEL ESTIMATE	CAPM METHODOLOGY
1 DCF-C	CAPM

- 2 CAPM GEOMETRIC MEAN ESTIMATE
- 3 CAPM ARITHMETIC MEAN ESTIMATE
- 4 AVERAGE OF CAPM ESTIMATES

5 AVERAGE OF DCF AND CAPM ESTIMATES

SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 9	10.02% (LINE 2 + LINE 3) / 2	9.88% (LINE 1 + LINE 4)/2
10.83%	10.02%	9.88%
		L

SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 9

9.20%

SCHEDULE WAR-2, COLUMN (C), LINE 9

9.73%

### **TEST YEAR ENDED APRIL 30, 2007** SOUTHWEST GAS CORPORATION DCF COST OF EQUITY CAPITAL

**DOCKET NO. G-01551A-07-0504** 

SCHEDULE WAR - 2

	= EQUITY CAPITAL	= 10.59%	= 9.31%	= 9.61%	= 10.18%	8.09%	= 7.47%	= 14.58%	8.03%	7000
(B) GROWTH	RATE (g)	5.92%	4.48%	5.25%	5.09%	4.73%	3.51%	8.65%	3.80%	
	+	+	+	+	+	+	+	+	+	
(A) DIVIDEND	YIELD	4.67%	4.83%	4.36%	2.08%	3.35%	3.97%	5.92%	4.23%	
	COMPANY	AGL RESOURCES, INC.	ATMOS ENERGY CORP.	LACLEDE GROUP, INC.	NICOR, INC.	NORTHWEST NATURAL GAS COMPANY	PIEDMONT NATURAL GAS COMPANY	SOUTH JERSEY INDUSTIES, INC.	WGL HOLDINGS, INC.	
STOCK	SYMBOL	ATG	ATO	PI	GAS	NWN	PNY	S	WGL	AVEDAGE
LINE	NO.	~	7	က	4	2	9	7	∞	σ

REFERENCES:

COLUMN (A): SCHEDULE WAR - 3, COLUMN C COLUMN (B): SCHEDULE WAR - 4, PAGE 1, COLUMN C COLUMN (C): COLUMN (A) + COLUMN (B)

(C)	DIVIDEND	4.67%	4.83%	4.36%	5.08%	3.35%	3.97%	5.92%	4.23%	4.55%
	11	11	п	H	H	н	II	H	11	
(B)	STOCK PRICE (PER SHARE)	\$35.97	26.91	34.39	36.60	44.74	25.21	34.78	32.15	
	_	_	_	_	_	_	_	_	_	
(A) ESTIMATED	DIVIDEND (PER SHARE)	\$1.68	1.30	1.50	1.86	1.50	1.00	2.06	1.36	
	COMPANY	AGL RESOURCES, INC.	ATMOS ENERGY CORP.	LACLEDE GROUP, INC.	NICOR, INC.	NORTHWEST NATURAL GAS COMPANY	PIEDMONT NATURAL GAS COMPANY	SOUTH JERSEY INDUSTIES, INC.	WGL HOLDINGS, INC.	
	STOCK	ATG	АТО	97	GAS	NWN	₽N≺	S	WGL	AVERAGE
	LINE NO	~	7	က	4	5	9	7	∞	6

### REFERENCES:

COLUMN (A): ESTIMATED 12 MONTH DIVIDEND REPORTED IN VALUE LINE INVESTMENT

SURVEY - RATINGS & REPORTS DATED 03/14/2008
COLUMN (B): EIGHT WEEK AVERAGE OF CLOSING PRICES FROM 01/28/2008 TO 03/20/2008
STOCK QUOTES OBTAINED THROUGH BIG CHARTS WEB SITE - HISTORICAL QUOTES (www.bigcharts.com).

COLUMN (C): COLUMN (A) / COLUMN (B)

### DIVIDEND GROWTH RATE CALCULATION **TEST YEAR ENDED APRIL 30, 2007** SOUTHWEST GAS CORPORATION

DIVIDEND GROWTH

**DOCKET NO. G-01551A-07-0504** 

SCHEDULE WAR - 4

**PAGE 1 OF 2** 

5.92%

(g)

4.48%

5.25%

5.09%

4.73%

		11	11	ħ	II	H	11	П	II	11	
(B) EXTERNAL	GROWTH	(sv)	0.17%	0.48%	1.00%	%60:0	0.03%	0.01%	0.75%	0.05%	
		+ '	+	+	+	+	+	+	+	+	
(A) INTERNAL	GROWTH	( br )	2.75%	4.00%	4.25%	2.00%	4.70%	3.50%	7.90%	3.75%	
		SOMPANY	AGL RESOURCES, INC.	ATMOS ENERGY CORP.	ACLEDE GROUP, INC.	VICOR, INC.	NORTHWEST NATURAL GAS COMPANY	PIEDMONT NATURAL GAS COMPANY	SOUTH JERSEY INDUSTIES, INC.	WGL HOLDINGS, INC.	
			ATG						SJI	WGL	AVERAGE
	LINE	NO N	~	7	က	4	2	9	7	∞	თ

5.18%

3.51%

8.65%

3.80%

### REFERENCES:

COLUMN (A): TESTIMONY, WAR COLUMN (B): SCHEDULE WAR - 4, PAGE 2, COLUMN C COLUMN (C): COLUMN (A) + COLUMN (B)

# SOUTHWEST GAS CORPORATION TEST YEAR ENDED APRIL 30, 2007 DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. G-01551A-07-0504 SCHEDULE WAR - 4 **PAGE 2 OF 2** 

			€)				(B)							(C)
NO.	STOCK	COMPANY	SHARE GROWTH	x { [ ( ( M/B ) + 1 ) / 2 ] - 1 }	( M/B	+	-		7	$\dashv$	-	$\neg$	11	GROWTH (sv)
<b>~</b>	ATG	AGL RESOURCES, INC.	0.55%	) ] } ×	[((1.61)+1)/2]	+	~	_	2	_	- 1	~	II	0.17%
2	АТО	ATMOS ENERGY CORP.	5.25%	) ] } ×	( 1.18	+	~	_	) / 2			~	Ħ	0.48%
က	97	LACLEDE GROUP, INC.	3.00%	) ] } ×	( 1.67	+	_	_	7		_	~	П	1.00%
4	GAS	NICOR, INC.	0.25%	) ] } ×	1.76	+	_	_	8	·	_	~	H	0.09%
5	NWN	NORTHWEST NATURAL GAS COMPANY	0.07%	) ] } ×	( 1.95	+	_	_	7	_	<del>-</del>	~	II	0.03%
9	PNY	PIEDMONT NATURAL GAS COMPANY	0.01%	)]} ×	( 2.02	+	~	_		_	-	~	н	0.01%
7	S	SOUTH JERSEY INDUSTIES, INC.	1.50%	) ] } ×	( 2.00	+	₹-	_	7	_		<u>~</u>	II	0.75%
∞	WGL	WGL HOLDINGS, INC.	0.20%	) ] } ×	[ [ ( 1.52	+	) + 1 )	_	7		-	~	П	0.05%
6	NATURAL GAS	NATURAL GAS LDC AVERAGE												0.32%

REFERENCES:

COLUMN (A): TESTIMONY, WAR COLUMN (B): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 03/14/2008 COLUMN (C): COLUMN (A) x COLUMN (B)

(F) SHARE GROWTH	4.32% -0.52% -0.26% 0.93%	14.77% 5.23% 5.27% 5.18%	3.17% 1.62% 1.94% 3.33%	0.65% -0.44% -0.22% 0.35%
(E) SHARES OUTST. (MILLIONS)	64.50 76.70 77.70 77.70 76.40 76.00 76.00 80.00	51.48 62.80 80.54 81.74 89.33 99.00 115.00	19.11 20.98 21.17 21.36 21.65 22.00 22.50 22.50 25.50 25.50	44.04 44.18 44.90 45.20 45.00 45.00 46.00
(D) BOOK VALUE (\$/SHARE)	14.66 18.06 19.29 20.71 21.74 10.50%	16.66 18.05 19.90 20.16 22.01 9.00%	15.65 16.96 17.31 18.85 19.79 4.50%	17.13 16.99 18.36 19.43 20.40 2.50% 4.00%
(C) DIVIDEND GROWTH (g)	6.53% 5.45% 6.14% 6.02% 5.04% 5.00% 5.29%	2.77% 1.73% 2.37% 3.63% 2.96% 2.69% 3.15% 3.15%	3.06% 2.61% 3.04% 5.12% 4.32% 4.21% 3.84%	1.46% 2.12% 2.26% 5.17% 4.34% 1.07% 1.91% 3.23% 5.61%
(B) RETURN ON BOOK EQUITY (1)_=	14.00% 11.00% 12.90% 13.20% 12.70% 13.00% 14.50%	9.30% 7.60% 8.50% 9.80% 8.70% 9.50% 9.50%	11.60% 10.10% 12.50% 11.50% 11.50% 11.00%	12.30% 12.30% 12.30% 12.30% 12.30% 12.30%
(A) RETENTION RATIO (b) x	0.4663 0.4956 0.4758 0.4569 0.3974 0.4000 0.4069	0.2982 0.2278 0.2791 0.3700 0.3402 0.3500 0.3514 0.4286	0.2637 0.2582 0.2789 0.4093 0.3723 0.3723 0.3789 0.3889	0.1185 0.1622 0.1806 0.3519 0.3212 0.37 0.1733 0.2692 0.4154
OPERATING	2003 2004 2005 2006 2007 [GRÖWTH 2003 - 2007 2008 2009 2011-13	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2009 2011-13	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2009 2011-13	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2008 2011-13
WATER COMPANY NAME	AGL RESOURCES, INC.	ATMOS ENERGY CORP.	LACLEDE GROUP, INC.	NICOR, INC.
STOCK	ATG	АТО	ស្ន	gys
LINE	- U W 4 M @ L @ D (	5 + 5 5 4 5 9 7 8 6 5	222222222222222222222222222222222222222	3 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 03/14/2008
COLUMN (C): COLUMN (A) × COLUMN (B)
COLUMN (C): LINES 6, 16, 26 & 36, SIMPLE AVERAGE GROWTH, 2002 - 2006

COLUMN (D): VALUE LINE INVESTMENT SURVEY COLUMN (D): LINES 6, 16, 26 & 36 COMPOUND GROWTH RATE COLUMN (E): VALUE LINE INVESTMENT SURVEY COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

## DOCKET NO. G-01551A-07-0504 SCHEDULE WAR - 5 PAGE 2 OF 2

(F) SHARE GROWTH	0.45% -1.55% -0.78% 1.18%	2.13% -0.31% -0.33% -0.34%	2.86% 1.28% 1.47% 1.56%	0.42% 0.10% 0.15% 0.22%
(E) SHARES OUTST. (MILLIONS)	25.94 27.55 27.58 27.58 26.41 26.00 26.00 28.00	67.31 76.67 76.70 74.61 73.23 73.00 73.00 73.00	26.46 27.76 28.98 29.33 29.62 30.00 30.50 32.00	48.63 48.67 48.65 48.89 49.45 49.50 49.50
(D) BOOK VALUE (\$/SHARE)	19.52 20.64 21.28 21.97 22.52 3.50%	9.36 11.15 11.53 11.89 6.50%	11.26 12.41 13.50 15.11 13.50%	16.25 16.95 17.80 19.83 3.50%
(C) DIVIDEND GROWTH (g)	2.51% 2.68% 3.71% 4.45% 5.98% 4.57% 4.60% 4.83%	3.08% 3.67% 3.57% 2.84% 3.49% 3.33% 3.68% 3.68% 3.93%	5.00% 6.01% 6.16% 10.20% 6.67% 6.81% 7.11%	6.21% 4.81% 4.49% 3.15% 3.62% 4.56% 4.50% 3.95%
(B) 8.50% BOOK EQUITY (r) =	9.00% 8.99% 10.90% 12.50% 11.00%	11.80% 11.10% 11.50% 11.90% 12.00% 12.50%	11.60% 12.50% 12.40% 16.30% 13.90% 13.50%	14.00% 12.00% 10.20% 10.40% 11.50% 10.50%
(A) RETENTION RATIO (b) ×	0.2784 0.3011 0.3744 0.4085 0.4783 7 0.4182 0.4388	0.2613 0.3307 0.3106 0.2578 0.2929 7 0.3067 0.3143	0.4307 0.4810 0.4971 0.6260 0.5167 7 0.5111 0.5265 0.5265	0.4435 0.3434 0.3744 0.3093 0.3476 7 0.3913 0.3872 0.3760
OPERATING PERIOD	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2009 2011-113	2003 2004 2005 2006 2007 GROWTH 2003 - 2007 2008 2009 2011-113	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2009 2011-13	2003 2004 2005 2006 2007 [GROWTH 2003 - 2007 2008 2009 2011-13
NATURAL GAS LDC NAME	NORTHWEST NATURAL GAS COMPANY	PIEDMONT NATURAL GAS COMPANY	SOUTH JERSEY INDUSTIES, INC.	WGL HOLDINGS, INC.
STOCK	NWN	Nd	<u>~</u>	WGL
LINE	- U w 4 rv rv r r r r r r r r r r r r r r r r	5 1 2 2 4 5 9 7 8 6 6	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 03/14/2008
COLUMN (C): COLUMN (A) × COLUMN (B)
COLUMN (C): LINES 6, 16, 26 & 36, SIMPLE AVERAGE GROWTH, 2002 - 2006

COLUMN (D): VALUE LINE INVESTMENT SURVEY COLUMN (D): LINES 6, 16, 26 & 36 COMPOUND GROWTH RATE COLUMN (E): VALUE LINE INVESTMENT SURVEY COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

### NATURAL GAS LDC SAMPLE:

BVPS	10.35%	7.21%	6.04%	4.46%	3.64%	6.39%	9.59%	5.10%	%09.9	- 1909) - 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
(F) 5 - YEAR COMPOUND HISTORY DPS	10.25%	1.63%	1.99%	0.00%	3.19%	4.82%	6.67%	1.71%	3.78%	5.54%
EPS	6.94%	3.21%	6.14%	6.75%	11.90%	5.97%	11.14%	-2.25%	6.23%	
(E) VALUE LINE & ZACKS AVGS.	6.19%	4.66%	4.33%	2.07%	4.26%	2.00%	7.83%	3.57%		4.74%
BVPS	10.50%	8.00.6	4.50%	2.50%	3.50%	6.50%	13.50%	3.50%	%69.9	
(D) VALUE LINE HISTORIC DPS	4.00%	1.50%	1.00%	2.50%	1.50%	4.50%	3.50%	1.50%	2.50%	5.38%
EPS	15.00%	7.50%	9.50%	-3.00%	3.50%	%00.9	12.00%	2.00%	6.94%	PROPERTY - 1
BVPS	1.50%	3.50%	2.00%	4.00%	3.50%	3.50%	2.00%	2.00%	3.88%	
DJECTED										П
(C) VALUE LINE PROJECT DPS	4.00%	2.00%	2.50%	0.50%	2.50%	4.00%	5.50%	2.50%	3.31%	3.87%
(C) VALUE LINE PRO EPS DPS	3.50% 4.00%	4.50% 2.00%	3.50% 2.50%	4.00% 0.50%	7.00% 5.50%	5.00% 4.00%	NMF 5.50%	3.50% 2.50%	4.43% 3.31%	3.87%
1										5.10%
EPS	3.50%	4.50%		4.00%	7.00%	2.00%	HWN	3.50%		5.18% 5.10%
(B) ZACKS EPS EPS	4.80% 3.50%	4.60% 4.50%	- 3.50%	4.00% 4.00%	5.30% 7.00%	2.50% 5.00%	7.50% NMF	4.00% 3.50%		5.10%

COLUMN (A): SCHEDULE WAR - 4, PAGE 1, COLUMN C

COLUMN (B): ZACKS INVESTMENT RESEARCH (www.zacks.com)

COLUMN (C): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 03/14/2008 COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 03/14/2008

COLUMN (F): SIMPLE AVERAGE OF COLUMNS (B) THRU (D) LINES 1 THRU 8
COLUMN (F): 5-YEAR ANNUAL GROWTH RATE CALCULATED WITH DATA COMPILED FROM VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 03/14/2008

SOUTHWEST GAS CORPORATION TEST YEAR ENDED APRIL 30, 2007 CAPM COST OF EQUITY CAPITAL

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# BASED ON A GEOMETRIC MEAN:

										_
(B) EXPECTED	RETURN	%60.6	80.6	9.52%	10.40%	8.65%	%60.6	8.65%	%60.6	9.20%
	11	11	и	13	H	D	11	H	11	
		_	_	_	_	_	_		_	
	ے	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	
	-									
	r <sub>m</sub>	10.40%	10.40%	10.40%	10.40%	10.40%	10.40%	10.40%	10.40%	
	-	$\smile$	$\smile$	$\smile$	$\smile$	$\smile$	$\overline{}$	_	$\smile$	
	×	×	×	×	×	×	×	×	×	
€	g ] +	[ 0.85	0.85	06.0	1.00	0.80	0.85	0.80	0.85	0.86
	-	_	+	_	_	_	_	_	_	Ш
	+	+		+	+	+	+	+	+	
	<u>.</u>	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	
	н	II	II	11	II	11	#1	II	11	
	~	¥	¥	¥	¥	¥	¥	¥	¥	
STOCK	SYMBOL	ATG	АТО	97	GAS	ZWZ	PNY	SJI	WGL	AVERAGE
N N	ġ	-	7	က	4	5	9	7	œ	တ

# REFERENCES: COLUMN (A): SHARPE LITNER CAPITAL ASSET PRICING MODEL ("CAPM") FORMULA

 $k = r_f + [ B (r_m - r_f) ]$ 

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

### NOTES

- (a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN <u>VALUE LINE INVESTMENT SURVEY'S</u> "SELECTION & OPINIONS" PUBLICATION FROM 02/22/2008 THROUGH 03/28/2008 WAS USED AS A RISK FREE RATE OF RETURN.
- (b) THE MARKET RATE PROXY USED WAS THE GEOMETRIC MEAN FOR S&P 500 RETURNS OVER THE 1926 2006 PERIOD. THE DATA WAS OBTAINED FROM MORNINGSTAR, INC.'S STOCKS, BONDS, BILLS AND INFLATION: 2007 YEARBOOK.

SOUTHWEST GAS CORPORATION TEST YEAR ENDED APRIL 30, 2007 CAPM COST OF EQUITY CAPITAL

DOCKET NO. G-01551A-07-0504 SCHEDULE WAR - 7 PAGE 2 OF 2

# BASED ON AN ARITHMETIC MEAN:

(B)	RETURN	10.70%	10.70%	11.23%	12.30%	10.17%	10.70%	10.17%	10.70%	10.83%
	H	п	H	n	н	11	u	11	п	
	$\Box$		_		_		_	_	_	
	ے	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	
	$ \cdot $	1	•	•	•				•	
	Ē	12.30%	12.30%	12.30%	12.30%	12.30%	12.30%	12.30%	12.30%	
	4	<b>~</b>	<u> </u>	<u> </u>	_	<u> </u>	<u> </u>	$\smile$	<b>)</b>	
	×	×	×	×	×	×	×	×	×	
€	2	0.85	0.85	06:0	1.00	0.80	0.85	0.80	0.85	0.86
	<b>-</b>	_		_	-	_	_		_	ш
	+	+	+	+	+	+	+	+	+	
	2	1.65%	1.65%	1.65%	1.65%		1.65%	1.65%	1.65%	
	"	H	II	11	11	11	11	u	11	
	*	×	¥	×	¥	¥	×	¥	¥	
YOUL	SYMBOL	ATG	АТО	9 <b>7</b>	GAS	NWN	PNY	28	WGL	AVERAGE
Į.	NO N	-	8	က	4	ß	9	7	80	6

REFERENCES: COLUMN (A): SHARPE LITNER CAPITAL ASSET PRICING MODEL ("CAPM") FORMULA

 $k = r_f + [S(r_m - r_f)]$ 

r, = RATE OF RETURN ON A RISK FREE ASSET PROXY (a) ß = THE BETA COEFFICIENT OF A GIVEN SECURITY r<sub>m</sub> = PROXY FOR THE MARKET RATE OF RETURN (b) k = THE EXPECTED RETURN ON A GIVEN SECURITY WHERE:

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

### NOTES

- "SELECTION & OPINIONS" PUBLICATION FROM 02/22/2008 THROUGH 03/28/2008 WAS USED AS A RISK FREE RATE (a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S OF RETURN.
- (b) THE MARKET RATE PROXY USED WAS THE ARITHMETIC MEAN FOR S&P 500 RETURNS OVER THE 1926 2006 PERIOD. THE DATA WAS OBTAINED FROM MORNINGSTAR, INC.'S STOCKS, BONDS, BILLS AND INFLATION: 2007 YEARBOOK.

(I) Baa-RATED	UTIL. BOND YIELD	10.06%	9.55%	8.86%	7.91%	8.63%	8.29%	8.17%	8.12%	7.27%	7.88%	8.36%	8.02%	7.98%	6.64%	6.20%	5.78%	6.30%	6.24%	6.14%
(H) A-RATED	UTIL. BOND YIELD	%98'6	8.36%	8.69%	7.59%	8.31%	7.89%	7.75%	7.60%	7.04%	7.62%	8.24%	7.59%	7.41%	6.18%	5.77%	5.38%	5.94%	6.07%	2.96%
( <u>0</u>	30-YR T-BONDS	7.49%	5.38%	3.43%	3.00%	4.25%	5.49%	5.01%	2.06%	4.78%	4.64%	5.82%	5.95%	5.38%	4.92%	5.03%	4.57%	4.91%	4.84%	4.72%
(£)	91-DAY T-BILLS	7.50%	5.38%	3.43%	3.00%	4.25%	5.49%	5.01%	90.5	4.78%	4.64%	5.82%	3.40%	1.61%	1.01%	1.37%	3.15%	4.73%	4.36%	0.56%
(E) FED.	FUNDS	8.10%	2.69%	3.52%	3.02%	4.21%	5.83%	5.30%	5.46%	5.35%	4.97%	6.24%	3.88%	1.67%	1.13%	1.35%	3.22%	4.97%	5.02%	2.25%
(D)	DISC. RATE	6.98%	5.45%	3.25%	3.00%	3.60%	5.21%	5.02%	2.00%	4.92%	4.62%	5.73%	3.41%	1.17%	2.03%	2.34%	4.19%	2.96%	5.86%	2.50%
(0)	PRIME	10.01%	8.46%	6.25%	%00'9	7.14%	8.83%	8.27%	8.44%	8.35%	7.99%	9.23%	6.92%	4.67%	4.12%	4.34%	6.16%	7.97%	8.05%	5.25%
(B) CHANGE IN	GDP (1996 \$)	1.90%	-0.20%	3.30%	2.70%	4.00%	2.50%	3.70%	4.50%	4.20%	4.50%	3.70%	0.80%	1.60%	2.50%	3.90%	3.20%	3.30%	2.20%	%09:0
(A)	CHANGE IN	5.40%	4.21%	3.01%	2.99%	2.56%	2.83%	2.95%	1.70%	1.60%	2.70%	3.40%	1.60%	2.40%	1.90%	3.30%	3.40%	2.50%	4.10%	4.00%
	YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	CURRENT
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COLUMN (A): 1990 - CURRENT, U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS WEB SITE COLUMN (B): 1990 - CURRENT, U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS WEB SITE COLUMN (B): 1990 - CURRENT, U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS WEB SITE COLUMN (C) THROUGH (F): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 03/28/2008 COLUMN (G) THROUGH (I): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 03/28/2008 COLUMN (H) THROUGH (I): 1990 - 2000, MOODY'S PUBLIC UTILITY REPORTS COLUMN (H) THROUGH (I): 2001, MERGENT 2002 PUBLIC UTILITY MANUAL COLUMN (H) THROUGH (I): 2003 MERGENT NEWS REPORTS

# AVERAGE CAPITAL STRUCTURES OF SAMPLE NATURAL GAS COMPANIES

	PCT.	36.3%	%0:0	63.7%	100.0%	PCT.	37.9%	1.7%	60.3%	100.0%					
	GAS	\$ 497.5	9.0	872.6	\$ 1,370.7	WGL	\$ 616.4	28.2	980.7	\$1,625.3					
	PCT.	45.3%	0.1%	54.6%	100.0%	PCT.	44.7%	%0:0	55.3%	100.0%					
	97	355.5	9.0	428.3	784.4	S	358.0	0.0	443.0	801.1					
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	PCT.	48.0%	%0.0	52.0%	100.0%	PCT.	48.4%	%0.0	51.6%	100.0%	GAS CORP. PCT.	52.7%	4.4%	42.9%	100.0%
	АТО	1,965.7	0.0	2,126.3	4,092.0	PNY	824.8	0.0	878.3	1,703.1	SOUTHWEST GAS CORP. AVERAGE PCT.	1,191.5	100.0	970.3	2,261.8
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	PCT.	50.2%	%0.0	49.8%	100.0%	PCT.	46.3%	0.0%	53.7%	100.0%	SAS LDC PCT.	45.9%	0.5%	53.9%	100.0%
	ATG	1,622.0	0.0	1,609.0	3,231.0	NWN	517.0	0.0	599.5	1,116.5	NATURAL GAS LDC AVERAGE	844.6	3.7	992.2	1,840.5
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		DEBT	PREFERRED STOCK	COMMON EQUITY	TOTALS		DEBT	PREFERRED STOCK	COMMON EQUITY	TOTALS		DEBT	PREFERRED STOCK	COMMON EQUITY	: TOTALS
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<u>REFERENCE:</u> MOST RECENT ANNUAL REPORTS OR SEC 10-K FILINGS

### **SOUTHWEST GAS CORPORATION**

### **DOCKET NO. G-01551A-07-0504**

**DIRECT TESTIMONY** 

OF

**RODNEY L. MOORE** 

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

March 28, 2008

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Direct Testimony of Rodney L. Moore Southwest Gas Corporation Docket No. G-01551A-07-0504

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### INTRODUCTION

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- 2 Q. Please state your name, position, employer and address.
- 3 A. Rodney L. Moore, Public Utilities Analyst V
- 4 Residential Utility Consumer Office
  - 1110 West Washington Street, Suite 220
- 6 Phoenix, Arizona 85007.
- Q. Please state your educational background and qualifications in the utilityregulation field.
  - A. Appendix 1, which is attached to this testimony, describes my educational background and includes a list of the rate case and regulatory matters in which I have participated.
  - Q. Please state the purpose of your testimony.
  - A. The purpose of my testimony is to present RUCO's recommendations regarding Southwest Gas Corporation's ("Company" or "SWG") application for a determination of the current fair value of its utility plant and property and for increases in its rates and charges based thereon for gas service.

    The test year utilized by the Company in connection with the preparation of this application is the 12-month period that ended April 30, 2007.

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### **BACKGROUND**

- Q. Please describe your work effort on this project.
- A. I obtained and reviewed data and performed analytical procedures necessary to understand the Company's filing as it relates to operating income, rate base, the Company's overall revenue requirement and rate design. My recommendations are based on these analyses. Procedures performed include the in-house formulation and analysis of seven sets of data requests, the review and analysis of Company responses to Commission Staff data requests, conversations with Company personnel and the review of prior ACC dockets related to SWG.

The Commission in Decision No. 68487, dated February 23, 2006, approved the Company's present rates and charges for utility service. The test year used in that proceeding was the 12-month period ending August 31, 2004.

- Q. What areas will you address in your testimony?
- A. I will address issues related to rate base, operating income and revenue requirements. RUCO's witness William A. Rigsby will provide an analysis of the cost of capital as presented on Schedule RLM-19. RUCO's witness Marylee Diaz Cortez will address rate design in her testimony to be filed April 11, 2008. I will sponsor the rate design exhibits that will be filed with the testimony of Ms. Diaz Cortez.

Q. Please identify the exhibits you are sponsoring.
 A. I am sponsoring Schedules numbered RLM-1 through RLM-19.

### SUMMARY OF ADJUSTMENTS

- Q. Please summarize the adjustments to rate base, operating income and revenue requirements addressed in your testimony.
- A. My testimony addresses the following issues:

### **Rate Base**

- <u>Fair Value Rate Base</u> This adjustment states the fair value rate base by giving equal weighting (50/50 split) to RUCO's adjusted original cost rate base and RUCO's calculation of the reconstruction cost new depreciated rate base.
- <u>Construction Completed Not Classified</u> This adjustment includes the value of retired plant associated with the completed construction not classified recommended for rate base treatment.
- Annualized Intangible Assets This adjustment removes those assets, which will be fully amortized shortly after the end of the test year and includes those intangible assets that entered service shortly after the end of the test year.
- Retired Plant Associated With the Sale of the "TEP Bypass" This adjustment includes the value of retired plant associated with Tucson Electric Power Company's cancellation of gas transportation service through the "TEP Bypass", SWG's corresponding normalization of test-

year revenue and the Company's acknowledgement of the upcoming sale 1 2 of these assets. 3 Accumulated Deferred Income Taxes Associated With Incentive 4 Compensation and the Supplemental Executive Retirement Plan - This is 5 a companion adjustment to recognize the deferred tax implications on 6 RUCO's operating income adjustments to the Company's incentive 7 compensation program and the supplemental executive retirement plan 8 discussed below. Allowance For Working Capital - This adjustment is the difference in the 10 level of expense recommendations calculated by the Company and 11 RUCO. 12 **Operating Income** 13 Labor and Labor Loading Annualization Expense - This adjustment 14 reduces test-year operating expenses to reflect RUCO's recommended 15 level of annualized payroll and payroll taxes. 16 Injuries and Damages Expense – This adjustment reflects RUCO's 17 determination of an average annual level of expense. 18 Paiute Allocation Annualization Expense – This is a conforming 19 adjustment corresponding to the Company's acknowledgment of 20 omissions in the original filing expenses. 21 Depreciation and Amortization Annualization Expense - This adjustment 22 reflects depreciation and amortization expenses calculated on RUCO's 23 recommended gross plant in service.

1 Property Tax Expense - This adjustment reflects the appropriate level of 2 property tax expense given RUCO's recommended level of net plant in 3 service. Unnecessary and/or Inappropriate Expenses - RUCO expanded the 4 scope of the Company's proposed adjustment to miscellaneous expense 5 6 adjustments and removed inappropriate expenditures not necessary in the 7 provisioning of gas service. Management Incentive Program - This adjustment reflects RUCO's 8 9 determination to split the cost on a 50/50 basis for expenses associated 10 with employee incentive compensation. 11 Supplemental Executive Retirement Plan – This adjustment reflects 12 RUCO's determination to remove the cost of the supplemental executive 13 retirement plan. Employee Recognition - This adjustment reflects RUCO's determination to 14 15 remove the costs of gifts and awards associated with employee 16 recognition. 17 Uncollectible Expense – This adjustment reduces test-year operating 18 expenses to reflect RUCO's recommended level of normalized 19 uncollectible expense. 20 Income Tax Expense – This adjustment reflects income tax expenses 21 calculated on RUCO's recommended revenues and expenses. 22

### Rate Design

- Q. Please explain your contribution to RUCO's recommended rate designs.
- A. I was responsible for producing an accurate set of bill determinants (i.e. test-year customer bill counts and therms consumed). After reviewing the Company's workpapers, I accepted SWG's bill determinants adjusted for weather normalization and customer annualization. I will be filing Schedule RLM-18 on April 11, 2008 as part of RUCO's rate design recommendations. An in-depth discussion of RUCO's proposed rate design will be contained in the testimony of RUCO witness Marylee Diaz Cortez, also to be filed on April 11, 2008.

### **REVENUE REQUIREMENTS**

- Q. Please summarize the results of RUCO's analysis of the Company's filing and state RUCO's recommended revenue requirement.
- A. As outlined in Schedule RLM-1, RUCO is recommending that the increase in the Company's revenue requirement not exceed:

17	<u>SWG</u>	<u>RUCO</u>	<u>DIFFERENCE</u>
18	\$50,219,828	\$31,296,285	(\$18,923,543)

My recommended revenue requirement percentage increase versus the Company's proposal is as follows:

22	<u>SWG</u>	<u>RUCO</u>	DIFFERENCE
23	12.58 %	7.84 %	-4.74 %

1 RUCO's recommended increase in Fair Value Rate Base ("FVRB") based 2 on the equal weighting of a 50/50 split between Original Cost Rate Base 3 ("OCRB") and Reconstruction Cost New Depreciated Rate Base ("RCND") 4 is summarized on Schedule RLM-1: 5 RUCO SWG DIFFERENCE 6 \$1,469,135,558 \$1,463,643,611 (\$5,491,947) 7 The detail supporting RUCO's recommended rate base is presented on 8 Schedules RLM-2, RLM-3, RLM-4, RLM-5 and RLM-6. 9 10 RUCO's recommended required operating income is shown on Schedule 11 RLM-1 as: 12 SWG RUCO DIFFERENCE 13 \$103,457,659 \$96,226,345 (\$7,231,314) 14 Schedule RLM-1 presents the calculation of RUCO's recommended 15 revenue requirement. 16 17 **RATE BASE** 18 Fair Value Rate Base 19 Q. Please explain the basis for your determination of the fair value rate base 20 ("FVRB"). 21 RUCO's determination of the FVRB consists of three elements. First, as Α. 22 shown on RLM-2, the value of the OCRB was restated to reflect RUCO's 23 adjustment to the various rate base determinants. Second, as shown on

1		RLM-3, the value of the RCND was computed. Third, as shown of RLM-1,
2		the FVRB was computed on an equal weighted basis (50/50 split)
3		between RUCO's OCRB and RCND.
4		
5	Q.	Please elaborate on the first element of RUCO's FVRB determination.
6	A.	The first element consists of adjustments to the OCRB. As shown on
7		RLM-4, RUCO made three adjustments to the OCRB, each of which is
8		discussed in detail below.
9		
10	Q.	Please elaborate on the second element of RUCO's FVRB determination.
11	A.	The second element is the computation of the RCND. RUCO's RCND
12		was computed by multiplying RUCO's OCRB by the percentage difference
13		between the Company's OCRB and its RCND as filed.
14		
15	Q.	Please elaborate on the third element of RUCO's FVRB determination.
16	A.	The third element is the computation of the FVRB. RUCO computed the
17		FVRB by calculating a 50/50 split between RUCO's OCRB and its RCND.
18		
19		This adjustment to fair value rate base decreased the test-year rate base
20		by \$5,491,947.
21		
22		
23		

	DOCKEL	140. O-0 100 IA-07-0004
1		Rate Base Adjustment No. 1 – Completed Construction Not Classified
2	Q.	Please explain your adjustment to completed construction not classified
3		("CCNC").
4	A.	In response to RUCO data request 2.1, the Company acknowledged there
5		were corresponding plant retirements associated with the CCNC identified
6		in its Adjustment No. 17.
7		
8		Therefore, my adjustment recognizes these plant retirements, because it
9		is necessary to match the test-year plant additions not classified with the
10		test-year retirements not classified.
11		
12		Thus the adjustment reduces the gross plant in service by the value of the
13		retirements (\$66,377); however, the adjustment also reduces the
14		accumulated depreciation by an equal amount, which offsets any effect on
15		the rate base.
16		
17		As shown on Schedule RLM-4 page 1, columns (D) and (E) and
18		supporting Schedule RLM-5, my adjustment decreases the adjusted rate
19		base by \$0. However, this adjustment has an effect on the test-year
20		depreciation expense, which is discussed later in my testimony on
21		operating income.
22		

### Rate Base Adjustment No. 2 – Annualized Intangible Assets

- Q. Please explain the Company's proposed adjustment to annualize its testyear intangible plant balances.
  - A. The Company's adjustment reflects construction expenditures made before the end of the test year. However, the actual recording of this construction activity into the plant accounts was made after the end of the test year due to delays in entering the required information into the Company's computer system.

Q. Do you agree with this adjustment?

A. No, not entirely. In response to Staff data requests 6.59 and 11.4, the Company acknowledged it had over-estimated costs of certain intangible plant additions in its original filing. My adjustment decreases the Company's proposed estimates of intangible plant additions with the actual plant additions.

These additional plant assets were system allocable miscellaneous intangible items primarily related to computer software. RUCO accepts the Company's recommendation to assign a three-year service life on these intangible plant assets, which will be discussed later in my testimony regarding operating income.

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Thus the adjustment consists of determining the difference between the estimated and actual costs, and adjusting SWG's rate base to reflect the actual intangible plant additions.

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As shown on Schedule RLM-4 page 2, column (E) and supporting Schedule RLM-10, page 3, column (B), my adjustment decreases the adjusted rate base by \$79,231.

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Rate Base Adjustment No. 3 - Retired Plant Associated With the Sale of the "TEP Bypass"

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Q. Please explain your adjustment to retire plant associated with Tucson Electric Power Company's ("TEP") cancellation of gas service provided through the "TEP bypass".

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In the testimony of Company witness Mr. Cattanach, he states SWG Α. annualized the test-year bills and volumes to reflect TEP's cancellation of gas service pursuant to the "TEP bypass". Moreover, in response to RUCO data request 7.2, the Company acknowledged there was an upcoming sale of the meters and pipes that service TEP planned for March 31, 2008 to transfer ownership to TEP. Because SWG annualized

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the end of test-year revenues based on end of test-year customer levels; it

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is also appropriate to annualize rate base items, such as plant in service

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and accumulated depreciation to reflect this adjusted customer level.

Therefore, my adjustment recognizes the plant that will be retired as a result of the "TEP bypass". This adjustment is necessary to match the test-year plant balances with the test-year customer level.

Thus, this adjustment reduces the gross plant in service by the value of the retirements (\$210,619); however, the adjustment also reduces the accumulated depreciation by an equal amount, which offsets any effect on the rate base.

As shown on Schedule RLM-4 page 1, columns (G) and (H), my adjustment decreases the adjusted rate base by \$0. This adjustment however has an effect on the test-year depreciation expense, which is discussed later in my testimony on operating income.

Rate Base Adjustment No. 4 – Accumulated Deferred Income Taxes

Associated With Management Incentive Program and the Supplemental

Executive Retirement Plan

- Q. Please explain your adjustment to accumulated deferred income tax ("ADIT").
- A. In response to Staff data request 11.11, the Company identified the ADIT associated with the management incentive program ("MIP") and the supplemental executive retirement plan ("SERP").

1 Have you removed the entire ADIT balance related to MIP and SERP from Q. 2 rate base? 3 Α. No. Since these two expenses have only been excluded from rates since 4 SWG's last rate case, I have only removed the ADIT that has accrued 5 since rates last went into effect through the end of the current test year. In this manner I have properly matched the MIP and SERP expense 6 7 disallowances with the applicable ADIT accruals. 8 9 Furthermore, as shown on Schedule RLM-4, page 3, I have limited my 10 ADIT adjustment related to MIP to 50 percent, since this was the portion of 11 MIP expenses that was disallowed in SWG's prior rate order. 12 13 This is a companion adjustment to the MIP and SERP adjustments 14 discussed below. 15 As shown on Schedule RLM-2, column (B), line 8, and supporting 16 Schedule RLM-4, page 3, my adjustment decreases the adjusted rate 17 base by \$880.989. 18 19 Rate Base Adjustment No. 5 – Allowance For Working Capital 20 Q. What level of working capital is the Company requesting? 21 Α. The Company is requesting a total working capital allowance of 22 \$5,681,932. This is comprised of cash working capital of (\$10,379,937), 23 materials and supplies of \$12,389,898, and prepayments of \$3,671,971.

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- 1 | Q. What is the basis of the Company's cash working capital request?
- 2 A. The Company's cash working capital request is based on the results of a lead/lag study.
  - Q. Please explain cash working capital and how a lead/lag study is used to measure cash working capital.
  - Cash working capital is the amount of cash needed by the Company to A. pay for goods and services in advance of the receipt of the associated The most accurate way to determine the necessary cash revenues. working capital requirement is through a lead/lag study. A lead/lag study measures the time between when service is rendered to customers and when the associated cash revenues are collected from customers (revenue lead/lag). The lead/lag study also measures the time between when goods and services are consumed in the production of utility service and when the utility makes payment for those goods and services (expense lead/lag). If the average lag in the receipt of revenues exceeds the average lag in payment of expenses, the utility has a positive cash working capital requirement. If the lead/lag study reveals that the average lag in the receipt of revenues is less than the average lag in the payment of expenses, the utility has a negative cash working capital requirement. In the first situation, stockholders must provide cash working capital to span the timing difference. In the latter situation, customers are supplying the cash working capital necessary to pay expenses through their earlier

calculated by the Company for Other O&M Expenses is understated.

No. In addition to the interest lag, I believe the 7.5-day expense lag

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A.

- 1 Q. How did the Company calculate the Other O&M Expense lag?
  - A. The Company examined each test-year expense voucher that exceeded \$10,000 and for each of these vouchers computed the lead/lag days between the service period and the date of payment. The resultant 7.5-day lag is the average of each of the individual test-year O&M expense lags.
  - Q. Why do you believe the Other O&M Expenses lag is understated?
    - A. In response to a data request, the Company provided samples of the vouchers it had included in its calculation of the Other O&M Expense lag.

      My examination of these vouchers revealed that a number of the vouchers included in the Other O&M Expense lag calculation were misclassified as expenses, when in fact these expenditures were Prepayments.

The inclusion of these prepayments as expenses in the lead/lag calculation has the effect of understating the true expense lag.

- Q. What types of expenditures had the Company misclassified as expenses?
- A. A number of large expenditures that the Company included in O&M expense were payments for annual maintenance contracts, annual rental payments, and extended warranties.

Under Generally Accepted Accounting Principles companies are required to record expenditures that provide future benefit as Prepayments and to amortize the expenditures over the period in which they provide benefit.

- Q. What adjustment have you made?
- A. I have removed those vouchers that represent Prepayments from the Company's calculation of the Other O&M Expense lag. I also removed two invoices for unnecessary expenses (\$17,200 as a sponsor for a golf tournament and \$19,548 for an advertisement in "Restauranteur of Arizona").
- Q. Have you made any other adjustments to the Other O&M Expense lag?
- A. Yes. In response to RUCO data request 6.1, the Company indicated that it had made some errors in the compilation of the lag days for three invoices. As shown on Schedule RLM-6, page 4, column (B), I have corrected those errors.

Removal of the vouchers and correcting the lag days results in an adjusted Other O&M Expense lag of 17.72 days.

- 1 Q. Are any other corrections and/or adjustments necessary to the Company's lead/lag calculations?
  - A. Yes. As shown on Schedule RLM-6, page 2, column (B), I have adjusted the expense levels included in the lead/lag study to reflect RUCO's proposed level of expenses. This adjustment is necessary to synchronize the lead/lag study with RUCO's pro-forma operating expenses.
  - Q. Did you review the other components the Company included in its working capital request?
  - A. Yes. I reviewed the Materials and Supplies and Prepayment balances the Company included in its working capital request.
  - Q. Are any adjustments necessary to these components?
  - A. Yes. The 13-month average Prepayment balance should be adjusted. As just discussed above, the Company had misclassified several test-year expenditures as O&M expenses, when in fact these expenditures were Prepayments. I have removed these expenditures from the O&M expenses included in the lead/lag study and I made a corresponding adjustment to include these amounts in the test year Prepayments balance (except for the two invoices deemed unnecessary \$17,200 as a sponsor for a golf tournament and \$19,548 for an advertisement in "Restauranteur of Arizona").

As shown on Schedule RLM-6, page 5, I have transferred these expenditures into the applicable month of the Prepayments account. I have also reflected the effect on the Prepayment balance in each ensuing month of the amortization of the prepayment.

This adjustment increases the 13-month average Prepayment balance by \$4,013,462.

- Q. Please summarize your adjustment to working capital?
- A. RUCO recommends that the Company's cash working capital request be adjusted to correct certain errors the Company made in its lead/lag study, to reclassify certain test-year expenditures from O&M expense to Prepayments, remove unnecessary expenditures and to synchronize with RUCO's operating expense adjustments.

As shown on Schedule RLM-6, page 1, a decrease in the Company's working capital request of \$4,507,854 is necessary.

### **OPERATING INCOME**

**Operating Income Summary** 

- Q. Is RUCO recommending any changes to the Company's proposed operating expenses?
- A. Yes. As shown on Schedule RLM-8, pages 1 through 2, columns (B) through (Q), I analyzed the Company's sixteen adjustments to its historical test-year operating income and made several adjustments to the operating income as filed by the Company. My review, analysis and adjustments are explained below.

SWG Operating Income Adjustment No. 1 – Labor and Labor Loading

Annualization Expense

- Q. Please explain your adjustment to labor and labor loading expenses.
- A. RUCO does not generally vary from the strict implementation of the Historical Test-Year principle to avoid mismatches in the ratemaking elements. Therefore, I disallowed the Company's proposed wage increases to be effective in June 2008.
- Q. Please explain your computation associated with your adjustment.
- A. After an analysis of the Company's workpapers, I accepted SWG's values and methodology utilized to annualize the labor and labor loading, which included annualization of the test-year payroll plus a 3 percent post test-year payroll increase. However, to adhere to the Historical Test-Year

principle I made one adjustment to the Company's formula. I adjusted the Company's proposed wage increase to be effective in June 2008 to zero; no other adjustments to the Company's calculation of the annualization of the labor and labor loading expense were made.

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Q. Why is RUCO disallowing the June 2008 wage increase?

The inclusion of the June 2008 wage increase has the effect of triplecounting the increases in the salary and wage accounts - once for annualization of the test-year salaries, a second time for the post test-year 2007 three percent increase, and a third time for the 2008 increase. The Company's annualization adjustment to reflect estimated levels that will be in effect in June 2008 creates a mismatch between rate base, revenues and expenses at the end of the test year. If the Commission were to authorize rate recovery of the June 2008 payroll increases, the Company would be creating biased rates by picking and choosing which rate base, expense and revenue items it will reflect on an actual, projected or The Company's logic that the June 2008 wage annualized basis. increases should be allowed because they will be known and measurable prior to the hearing in this proceeding could be extended to all other operating income elements, since the Company will have recorded data through May 2008 by the time the hearing commences; yet SWG did not request post test year treatment of any other rate base, expense, or revenue items.

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- Please explain the rationale of RUCO's recommendation to include the within grade movement and general wage increase effective May 2007 and June 2007 respectively, in the context of RUCO's strict adherence to the Historical Test-Year principle.
- A. RUCO carefully analyzed the timeliness of the labor cost increases effective May 2007 and June 2007. Since the increases occurred within days of the end of the test year, RUCO will accept as reasonable the allowance of such annual adjustments for ratemaking treatment. This is reasonable because these annual increases do not accurately coincide with the staggered test year used in this case. Had SWG choose a test year ending two months later these wage increases would have automatically been included in operating expenses.

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As shown on Schedule RLM-8, column (B) and supporting Schedule RLM-9, my adjustment decreases adjusted test-year expenses by \$2,613,490.

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- Operating Income Adjustment No. 2 Injury and Damages Expenses
- 18
- Q. Please explain your adjustment to injury and damages expenses.
- 20

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responses to RUCO Data Request 2.5 and Staff Data Request 1.53, which recognized a failure to acknowledge \$283,664 in expenses in the

This is a conforming adjustment corresponding to the Company's

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Company's original filing.

1		Therefore, as shown on Schedule RLM-8, column (C), this adjustment
2		increased test-year expenses by \$283,664.
3		
4		Operating Income Adjustment No. 3 - Pauite Allocation Annualization
5		<u>Expense</u>
6	Q.	Please explain your adjustment to the Pauite allocation expense.
7	A.	This is a conforming adjustment corresponding to the Company's
8		responses to RUCO Data Request 2.5 and Staff Data Request 1.85,
9		which acknowledged a failure to remove an aggregate \$17,702 in
10		expenses in the Company's original filing.
11		
12		Therefore, as shown on Schedule RLM-8, column (D), this adjustment
13		decreased test-year expenses by \$17,702.
14		
15		Operating Income Adjustment No. 4 - Depreciation and Amortization
16		Annualization Expense
17	Q.	Please explain your adjustment to depreciation and amortization
18		expenses.
19	A.	The adjustment is primarily attributable to RUCO's rate base adjustments.
20		RUCO agrees with the set of depreciation rates that SWG is proposing to
21		implement on a going-forward basis and to amortize the intangible plant
22		included in the annualization adjustment over a three-year period.
23		

As shown on Schedule RLM-8, column (E) and supporting Schedule RLM-10, pages 1 through 3, my adjustment decreases adjusted test-year expenses by \$58,204.

### Operating Income Adjustment No. 5 – Property Tax Expense

- Q. Do you agree with SWG's methodology for computing gas utility property taxes?
- A. Yes. I have used the same methodology to compute RUCO's recommended level of property taxes. The difference in the amount I calculated versus the Company is solely a result of our respective levels of recommended net plant in service.

As shown on Schedule RLM-8, column (F) and supporting Schedule RLM-11, RUCO and the Company, at the time of this filing, are in agreement on the level of test-year net plant in service; therefore, the adjustment increases adjusted test-year expenses by \$0.

# and/or Unnecessary Expenses

Q. Please explain your analysis of the various operating expense accounts that result in your removal of inappropriate or unnecessary costs for the provisioning of gas service.

Operating Income Adjustment No. 6 – Disallowance of Inappropriate

A. After review of all the journal entries in various FERC accounts and the Company's response to RUCO Data Request 5.1, I determined there were numerous expenditures that were questionable, inappropriate, extravagant and/or unnecessary.

Therefore, as summarized on Schedule RLM-12, I have made an adjustment to remove test-year expenses related to payments to chambers of commerce, non-profit organizations, donations, club memberships, gifts, awards, extravagant corporate events, advertising and for various meals, lodging and refreshments, which are not necessary in the provisioning of gas service. The back-up documentation denoting each individual expense removed is recorded in Revised Exhibit A: FERC Account Code 880, pages 1 to 18, FERC Account 921, pages 1 to 14, FERC Account 923, page 1, and FERC Account 930, page 1.

RUCO provided SWG with a copy of the original Exhibit A in a data request to the Company. SWG concurred with RUCO in certain transactions and withdrew its request for recovery. The Company also

Docket No. G-01551A-07-0504 responded with comments as to the appropriateness and necessity of 1 2 each expense. After analyzing the Company's response, RUCO removed 3 \$312,932 from the \$517,302 test-year expenses submitted on the original Exhibit A. 4 5 6 However, of the questionable invoices originally submitted by RUCO on 7 Exhibit A there still remain expenditures that are questionable, 8 inappropriate, extravagant and/or unnecessary and that the Company 9 deems as appropriate charges for recovery from customers in rates. Such 10 "appropriate charges" include: 11 Massages for \$2,160; 1. 12 2. 13

- Gift certificates to theaters, restaurants and shopping malls for \$18,230;
- Water, ice, coffee, beverages and refreshments for Company 3. offices for \$66,422;
- 4. Breakfast, lunch and dinners for meetings for \$71,358;
- 5. Management off-site meetings at the Crowne Plaza Hotel, J W Marriott Starr Pass Resort and Spa, Orange Tree Golf Resort for \$8,835; and
- 6. One Board of Directors' Meeting at the Southern Highlands Golf Course (Company adjusted) for \$5,365. (SWG agreed to remove \$3,107.51 itemized as beverages).

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The MIP is

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1 Operating Income Adjustment No. 8 – Supplemental Executive Retirement 2 <u>Plan</u> 3 Q. Please explain the basis for the adjustment you made to Supplemental 4 Executive Retirement Plan ("SERP") expenses. The SERP is a retirement plan that is provided to a small select group of 5 Α. high-ranking officers of the Company. The high-ranking officers who are 6 covered under the SERP receive these benefits in addition to the regular 7 8 retirement plan. 9 10 Q. Should ratepayers be required to pay the cost of supplemental benefits for 11 the high-ranking officers of the Company? 12 No. The cost of supplemental benefits for high-ranking officers is not a A. 13 necessary cost of providing electric service. These individuals are already 14 fairly compensated for their work and are provided with a wide array of 15 benefits including a medical plan, dental plan, life insurance, long term 16 disability, paid absence time, and a retirement plan. If the Company feels 17 it is necessary to provide additional perks to a select group of employees it 18 should do so at its own expense. 19 20 In recent ACC Decisions did the Commissioners determine whether SERP Q. 21 expenses were recoverable? 22 Yes. Recently, the Commission agreed with RUCO that SERP expenses Α.

should not be the burden of ratepayers. In Southwest Gas' latest rate

case, (Decision No. 68487, dated February 23, 2006) the Commission agreed with RUCO that SERP should be excluded from operating expenses. In Arizona Public Service's most recent rate case, (Decision No. 69663, dated June 28, 2007), the Commission voted to disallow SERP. Moreover, the Commission voted to disallow SERP in the UNS Gas rate case (Decision No. 70011, dated November 27,2007). There is no reason to depart from this precedent; therefore, RUCO recommends the removal of the test-year cost of the SERP from operating expenses.

As shown on Schedule RLM-8, column (I) and supporting Schedule RLM-14, this adjustment decreased test-year expenses by \$1,940,914.

### Operating Income Adjustment No. 9 – Employee Recognition

 Q.

Please explain the basis for your adjustment to operating expenses for the removal of costs associated with employee recognition.

A. As previously explained in Operating Expense Adjustment No. 6, RUCO believes it is inappropriate to burden ratepayers with expenses related to payments to chambers of commerce, non-profit organizations, donations, club memberships, gifts, awards, extravagant corporate events, advertising and for various meals, lodging and refreshments, which are not necessary in the provisioning of gas service.

Therefore, in the Company's responses to RUCO data request 2.4 and Staff Data Request 1.42, SWG acknowledged \$54,174 was recorded in the test-year general ledger for employee recognition, this amount included expenses for such things as gift certificates to theaters, restaurants and shopping malls, etc.. The Company's response also states that no portion of the \$54,174 has been removed in any other adjustment.

As shown on Schedule RLM-8, column (J), this adjustment decreased test-year expenses by \$54,174.

### Operating Income Adjustment No. 10 – Uncollectible Expense

Q. Please explain the basis for your adjustment to operating expenses for the decrease in the uncollectible expense.

A.

Through discovery I reviewed and analyzed three years of expenses recorded in FERC account 904 – uncollectible accounts from 2004 through 2006.

My analysis indicated this expense was sufficiently volatile to recommend a test year adjustment to acknowledge the wide variation in annual costs and to provide recovery of a normalized level of uncollectibles.

My adjustment to the test year uncollectible expense in the instant case consisted of two elements. First, I calculated the annual three-year average of the ratio of the yearly uncollectible expense to that year's revenue for 2004 through 2006. Second, I multiplied this computed average ratio by RUCO's adjusted test-year revenue.

As shown on Schedule RLM-8, column (K) and supporting Schedule RLM-15, this adjustment decreased test-year expenses by \$752,652.

Operating Income Adjustment No. 11 – Gain On The Sale Of Property

- Q. Please explain your adjustment to operating expenses for the equity realized from the Company's sale of property.
- A. In its response to Staff data request 9.1, the Company acknowledged it is appropriate to share the gain on the disposition of assets with the ratepayers on a 50/50 basis. Therefore, my adjustment reflects a 50 percent share of the net proceeds realized from the sale of land and structures identified through discovery.

Historically, the Commission has determined similar adjustments should be amortized over a multi-year period; so to be consistent with the Commission's decision and other adjustments in this case, the gain has been amortized over a three-year period.

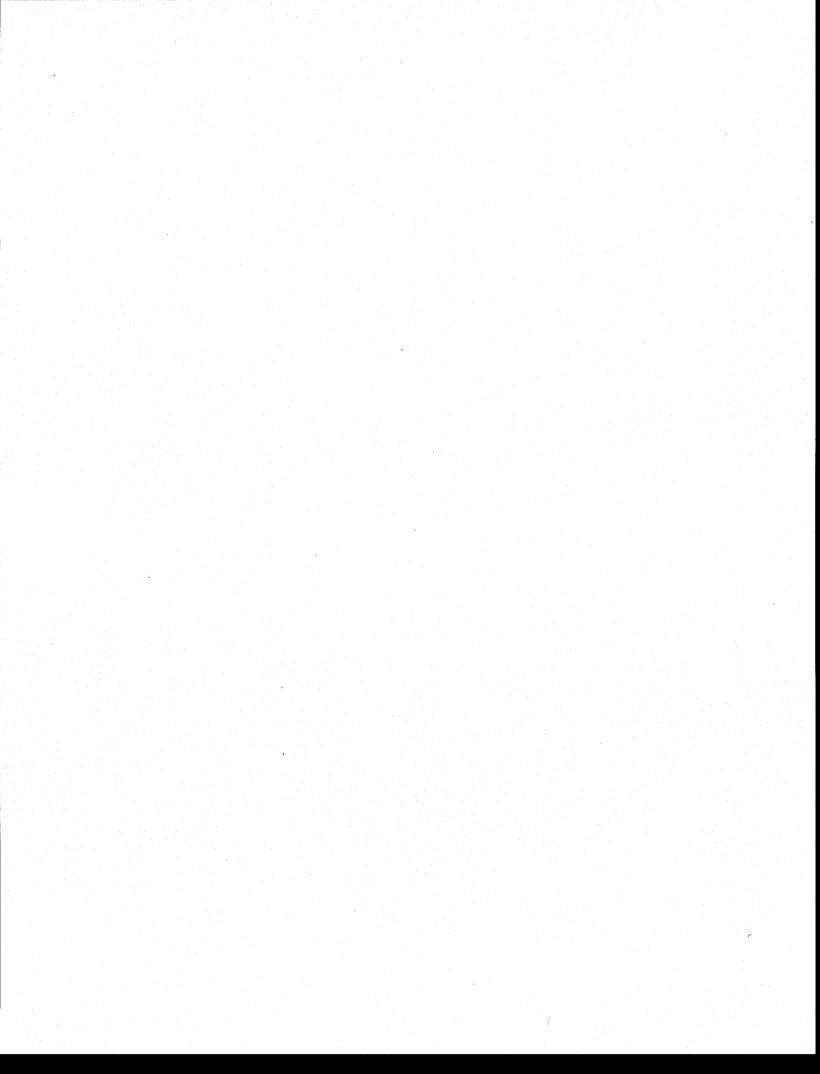
As shown on Schedule RLM-8, column (L) and supporting Schedule RLM-1 2 16, this adjustment decreased test-year expenses by \$69,699. 3 4 Operating Income Adjustment No. 12 - Income Tax Expense - This 5 adjustment reflects income tax expenses calculated on RUCO's 6 recommended revenues and expenses. 7 As shown on Schedule RLM-8, column (Q) and supporting Schedule 8 RLM-17, this adjustment increased test-year expenses by \$3,118,244. 9 10 RATE DESIGN AND PROOF OF RECOMMENDED REVENUE 11 Q. Please explain your contribution to RUCO's recommended rate designs. I was responsible for producing an accurate set of bill determinants (i.e. 12 A. 13 test-year customer bill counts and therms consumed). I am in agreement 14 with the bill determinants normalized by the Company. My recommended 15 bill determinants are an integral part of the rate design presented on 16 Schedule RLM-19, pages 1 through 4, to be filed on April 11, 2008. 17 18 Ms. Marylee Diaz Cortez will discuss RUCO's proposed rate design and 19 structure in her testimony. 20 21 22 23

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A.

Yes, it does.

1 Have you prepared a Schedule presenting proof of your recommended 2 revenue? 3 Yes, I have. Proof that my recommended rate design will produce the Α. 4 recommended required revenue as illustrated, is presented also on 5 Schedule RLM-19. 6 7 **COST OF CAPITAL** 8 Q. Is RUCO proposing any adjustments to the Company proposed cost of 9 capital? 10 Yes, as shown on RLM-18, this adjustment decreases the Company's cost A. 11 of common equity and therefore its weighted cost of capital by 62 basis 12 points from 9.45 to 8.83 percent to reflect current market conditions. 13 This adjustment is fully explained in the testimony of RUCO witness 14 William A. Rigsby. 15 16 Does this conclude your direct testimony? Q.



### **APPENDIX 1**

Qualifications of Rodney Lane Moore

**EDUCATION:** 

Athabasca University

Bachelor's Degree in Business Administration - 1993

**EXPERIENCE:** 

Public Utilities Analyst V

Residential Utility Consumer Office

Phoenix, Arizona 85007 May 2001 - Present

My duties include review and analysis of financial records and other documents of regulated utilities for accuracy, completeness, and reasonableness. I am also responsible for the preparation of work papers and Schedules resulting in testimony and/or reports regarding utility applications for increase in rates, financings, and other matters. Extensive use of Microsoft Excel and Word, spreadsheet modeling and financial statement analysis.

Auditor Arizona Corporation Commission Phoenix, Arizona 85007 October 1999 - May 2001

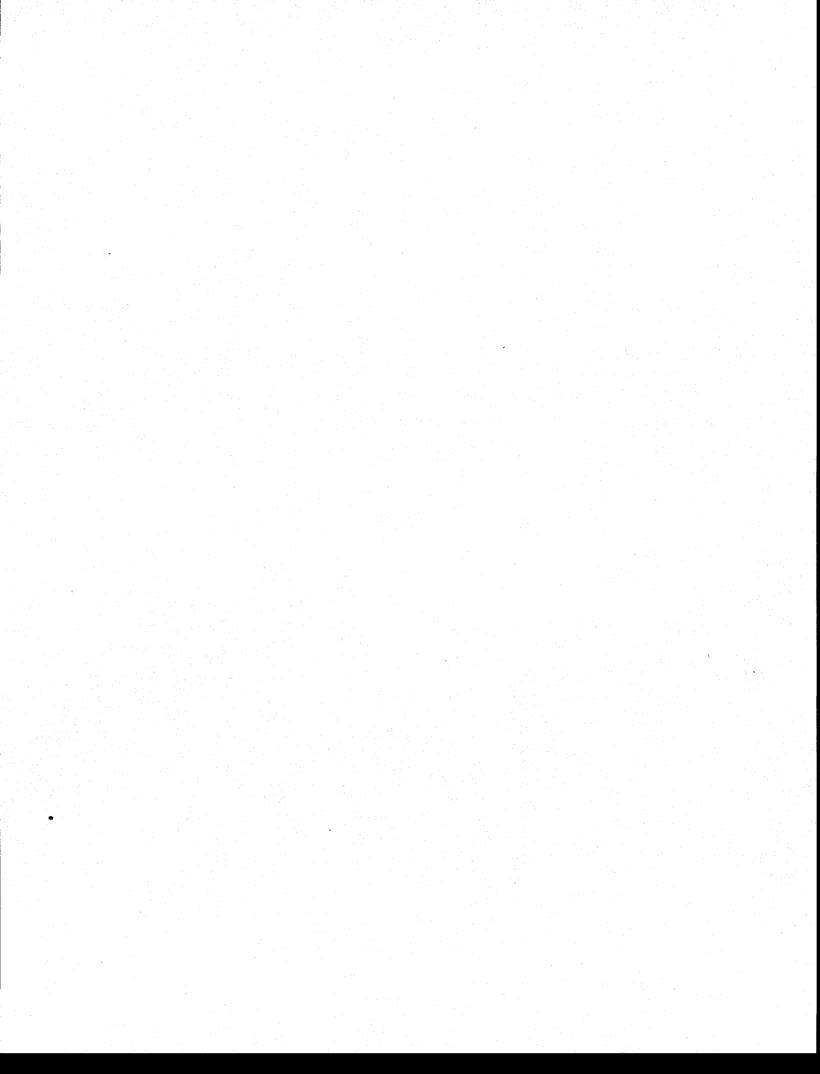
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### RESUME OF RATE CASE AND REGULATORY PARTICIPATION

<b>Utility Company</b>	<b>Docket No.</b>
Rio Verde Utilities, Inc	WS-02156A-00-0321
Black Mountain Gas Company	G-03703A-01-0283
Green Valley Water Company	W-02025A-01-0559
New River Utility Company	W-01737A-01-0662

### **Utility Company**

### Docket No.



### TABLE OF CONTENTS TO RUCO SCHEDULES

LINE NO.	SCH. NO.	PAGE NO.	TITLE
1	RLM-1	1 & 2	REVENUE REQUIREMENT
2	RLM-2	1	RATE BASE - ORIGINAL COST
3	RLM-3	1	RATE BASE - RECONSTRUCTED COST NEW DEPRECIATED
4	RLM-4	1 & 2	SUMMARY OF TEST-YEAR PLANT ADJUSTMENTS
5	RLM-5	1 & 2	RATE BASE ADJUSTMENT NO. 1 - COMPLETED CONSTRUCTION NOT CLASSIFIED
6	TESTIMON	IY, RLM	RATE BASE ADJUSTMENT NO. 2 - MISCELLANEOUS INTANGIBLE PLANT
7	TESTIMON	IY, RLM	RATE BASE ADJUSTMENT NO. 3 - RETIRED TEP BYPASS PLANT
8	RLM-4	3	RATE BASE ADJUSTMENT NO. 4 - ADIT ASSOCIATED WITH MIP AND SERP
9	RLM-6	1 TO 5	RATE BASE ADJUSTMENT NO. 5 - CALCULATION OF WORKING CAPITAL
10	RLM-7	1	OPERATING INCOME
11	RLM-8	1 & 2	SUMMARY OF OPERATING INCOME ADJUSTMENTS
12	RLM-9	1	OPERATING INCOME ADJUSTMENT NO. 1 - LABOR ANNUALIZATION
13	TESTIMON	IY, RLM	OPERATING INCOME ADJUSTMENT NO. 2 - INJURIES AND DAMAGES EXPENSES
14	TESTIMON	IY, RLM	OPERATING INCOME ADJUSTMENT NO. 3 - PAIUTE ALLOCATION ANNUALIZATION
15	RLM-10	1 & 2	OPERATING INCOME ADJUSTMENT NO. 4 - ANNUALIZED DEPRECIATION AND AMORTIZATION EXPENSE
16	RLM-11	1	OPERATING INCOME ADJUSTMENT NO. 5 - PROPERTY TAX
17	RLM-12	1	OPERATING INCOME ADJUSTMENT NO. 6 - UNNECESSARY/INAPPROPRIATE EXPENSES
18	RLM-13	1	OPERATING INCOME ADJUSTMENT NO. 7 - MANAGEMENT INCENTIVE PROGRAM
19	RLM-14	1	OPERATING INCOME ADJUSTMENT NO. 8 - SUPPLEMENTAL EMPLOYEE RETIREMENT PLAN
20	TESTIMON	IY, RLM	OPERATING INCOME ADJUSTMENT NO. 9 - EMPLOYEE RECOGNITION
21	RLM-15	1	OPERATING INCOME ADJUSTMENT NO. 10 - UNCOLLECTIBLE EXPENSE
22	RLM-16	1	OPERATING INCOME ADJUSTMENT NO. 11 - GAIN ON SALE OF PROPERTY
23	RLM-17	1	INCOME TAX CALCULATION
24	RLM-18	1	COST OF CAPITAL
25	RLM-19	1 TO 4	RATE DESIGN AND PROOF OF RECOMMENDED REVENUE (FILED SEPERATELY)

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

# REVENUE REQUIREMENT

			(A) COMPANY		(B)	Ū	(C) COMPANY		(D) RUCO		(E)		(F) RUCO	
LINE			ORIGINAL	_	COMPANY		FAIR		ORIGINAL		RUCO		FAIR	
o S	DESCRIPTION		COST		RCND		VALUE	İ	COST		RCND		VALUE	
~	Adjusted Rate Base	↔	\$ 1,094,790,046	↔	\$ 1,843,481,069	↔	\$ 1,469,135,558	\$	\$ 1,089,321,967	€>	\$ 1,837,965,254	€9-	\$ 1,463,643,611	
2	Adjusted Operating Income (Loss)	<del>⇔</del>	73,180,098	₩	73,180,098	↔	73,180,098	69	77,394,464	↔	77,394,464	<b>↔</b>	77,394,464	
ო	Current Rate Of Return (Line 2 / Line 1)		89.9		3.97%		4.98%		7.10%		4.21%		5.29%	
4	Required Operating Income (Line 5 X Line 1)	↔	103,457,659	↔	103,457,659	↔	103,457,659	€9	96,226,345	↔	96,226,345	€>	96,226,345	
ည	Required Rate Of Return		9.45%		5.61%		7.04%		8.83%		5.24%		6.57%	
9	Operating Income Deficiency (Line 4 - Line 2)	↔	30,277,561	€9	30,277,561	69	30,277,561	€9	18,831,882	↔	18,831,882	€>	18,831,882	
7	Gross Revenue Conversion Factor (Schedule RLM-1, Page 2)		1.6586		1.6586		1.6586		1.6619		1.6619		1.6619	
æ	Increase In Gross Revenue Requirement (Line 7 X Line 6)	<del>⇔</del>	50,219,828	↔	50,219,828	€>	50,219,828	€5	31,296,285	S	31,296,285	<del>⇔</del>	31,296,285	
თ	Adjusted Test Year Revenue	€>	399,234,678	₩,	399,234,678	<b>↔</b>	399,234,678	69	399,234,678	€>	399,234,678	69	399,234,678	
10	Proposed Annual Revenue Requirement (Line 8 + Line 9)	€9	449,454,506	69	449,454,506	69	449,454,506	↔	430,530,964	€9	430,530,964	↔	430,530,964	
1	Required Percentage Increase In Revenue (Line 8 / Line 9)		12.58%		12.58%		12.58%		7.84%		7.84%		7.84%	
12	Rate Of Return On Common Equity		11.25%		11.25%		11.25%		9.88%		9.88%		9.88%	

References:

Columns (A) Thru (C): Company Schedule A-1, C-1 And D-1 Columns (D) Thru (F): Schedules RLM-2, RLM-5, RLM-6 And RLM-18

### **GROSS REVENUE CONVERSION FACTOR**

LINE			
NO.	DESCRIPTION	REFERENCE	(A)
	CALCULATION OF GROSS REVENUE CONVERSION	ON FACTOR:	
1	Revenue		1.0000
2	Less: Uncollectibles	Adjusted 3-Yr Average Uncollectible Expense (See RLM-15)	0.0022
3	Subtotal	Line 1 - Line 2	0.9978
4	Less: Combined Federal And State Tax Rate	Line 14	39.60%
5	Subtotal	Line 3 - Line 4	0.6017
6	Revenue Conversion Factor	Line 1 / Line 5	1.6619
	CALCULATION OF EFFECTIVE TAX RATE:		
7	Arizona Taxable Income		1.0000
8	Arizona State Income Tax Rate		0.0697
9	Federal Taxable Income	Line 7 - Line 8	0.9303
10	Applicable Federal Income Tax Rate	Tax Table	35.17%
11	Effective Federal Income Tax Rate	Line 9 X Line 10	0.3272
12	Subtotal	Line 8 + Line 11	0.3969
13	Revenue Less Uncollectibles	Line 3	0.9978
14	Combined Federal And State Income Tax Rate	Line 12 X Line 13	39.60%

### **RATE BASE - ORIGINAL COST**

LINE NO.	DESCRIPTION	(A) COMPANY FILED AS OCRB	AC	(B) RUCO OCRB BUSTMENTS	REF.	 (C) RUCO ADJUSTED AS OCRB
1	Gas Plant In Service Less:	\$ 2,053,847,890	\$	(356,233)	(1)	\$ 2,053,491,657
2 3	Accumulated Depreciation And Amortization Net Gas Plant In Service (Line 1 - Line 2)	\$ 752,275,563 1,301,572,327	\$	(276,996) (79,237)	(1)	\$ 751,998,567 1,301,493,090
<b>4</b> 5	Additions: Allowance For Working Capital (RLM-6, Page 1) Total Additions (Line 4)	\$ 5,681,932 5,681,932	<u>\$</u>	(4,507,854) (4,507,854)	(2)	\$ 1,174,078 1,174,078
6 7 8 9	Deductions: Customer Advances In Aid Of Construction Customer Deposits Deferred Income Taxes Total Deductions (Sum Of Lines 6, 7 & 8)	\$ (37,910,017) (31,921,898) (142,632,297) (212,464,212)	\$	- (880,989) (880,989)	(3)	\$  (37,910,017) (31,921,898) (143,513,286) (213,345,201)
10	TOTAL ORIGINAL COST RATE BASE (Sum Of Lines 3, 5 & 9	\$ 1,094,790,047	\$	(5,468,080)		\$ 1,089,321,967

### References:

Column (A): Company Schedule B-1
Column (B): References:
(1) Schedule RLM-4, Page 1
(2) Schedule RLM-6, Page 1
(3) Schedule RLM-3, Page 3
Column (C): Column (A) + Column (B)

### RATE BASE - RECONSTRUCTED COST NEW DEPRECIATED

LINE NO.	DESCRIPTION	 (A) COMPANY FILED AS RCND	ADJ	(B) RUCO RCND USTMENTS	(C) RUCO ADJUSTED AS ROND
1	Gas Plant In Service Less:	\$ 3,224,193,614	\$	(559,226)	\$ 3,223,634,388
2	Accumulated Depreciation And Amortization	1,173,930,265		(432,254)	1,173,498,011
3	Net Gas Plant in Service (Line 1 - Line 2)	\$ 2,050,263,349	\$	(126,972)	\$ 2,050,136,377
	Additions:				
4	Allowance For Working Capital	\$ 5,681,932	\$	(4,507,854)	\$ 1,174,078
5	Total Additions (Line 4)	\$ 5,681,932	\$	(4,507,854)	\$ 1,174,078
	Deductions:				
6	Customer Advances In Aid Of Construction	\$ (37,910,017)	\$	-	\$ (37,910,017)
7	Customer Deposits	(31,921,898)		-	(31,921,898)
8	Deferred Income Taxes	(142,632,297)		(880,989)	(143,513,286)
9	Total Deductions (Sum Lines 6, 7 & 8)	\$ (212,464,212)	\$	(880,989)	\$ (213,345,201)
10	TOTAL RCND RATE BASE	\$ 1,843,481,069	\$	(5,515,815)	\$ 1,837,965,254

### References:

Column (A): Company Schedule B-1
Column (B): Column (C) - Column (A)
Column (C): OCRB (RLM-2, Column (C)) X Same Ratio As The Company's RCND Is To Its OCRB (144.84%)

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

# EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 1 "DIRECT" TEST-YEAR PLANT SCHEDULES

				į	į	YEAR END	YEAR ENDED APRIL 30, 2007						
			€	(B) COMPANY TEST YEAR AS FILED	(C) AS FILED	(D) ADJUSTN	D) (E) ADJUSTMENT NO. 1	(F) ADJ. NO. 2	•	G) (H) ADJUSTMENT NO. 3	€	(J) RUCO AS ADJUSTED	( <del>X</del> )
LINE	ACCT	•		TOTAL PLANT	ACCUMULATED	RETIREM	RETIREMENTS CCNC	SYS. ALLOC.	İ	RETIREMENTS TEP BYPASS	TOTAL PLANT	ACCUMULATED	NET PLANT
ġ	NO.	ACCOUNT NAME	RATE	VALUE	DEPRECIATION	PLANT	ACC. DEP.	ONLY	PLANT	ACC.DEP	VALUE	DEPRECIATION	VALUE
		Intangible Ptant:											e.
-	301.0	Organization	Amor'd	\$ 42,653	· •>	, 69	, 49	• •>	, 49	, 69	\$ 42,653	, 49	\$ 42,653
7	302.0	Franchises & Consents	Amord	1,877,392	663,783		•	•	•		1,877,392	663,783	1,213,609
m •	303.0	Miscellaneous Intangible	Amord		1,950,332						1,957,665	1,950,332	
4		l otal intangide Plant		3,877,710	\$ 2,614,115	, ,	,	<i>*</i>	»  		\$ 3,877,710	\$ 2,614,115	\$ 1,263,595
		Distribution Plant:											
9	374.1	Land & Land Rights	A/N	\$ 1084.811	·	69	69	69	&	·	1 084 811	¥	1 08/1811
ဖ	374.2	Rights Of Way	2 17%	•	324 955	,	,	•	•	•	•	32/1055	
7	375.0	Structures	0.39%	110.557	64.023		•	•	•		110.557	64,033	135,105
• • • •	376.0	Mains	3 82%	984 805 304	355 501 160	(72 897)	02 80		(28 K2K)	(28 526)	087 753 881	25,50 25,50	10,01
) O	378.0	Measuring & Regulation Station	4 12%	32,754,093	3 128 320	(41.047)	(41.047)	. ·	(070,02)	(070,020)	22 712 046	000,448,737	905,304,144
. 5	380.0	Services	5.30%	605,765,994	284 242 868	(1288)	(1 288)	. 6			54,7 13,040 606 264 706	0,007,100,0	27,020,173
; =	384.0	Motore	1 08%	226 563 220	30 404 483	(0071)	7,1		•		902,204,706	086,142,482	321,023,126
. 5	285.0	Industrial Meanings & Dec Station	1 3 1 %	22,000,022	3 3 2 4 8 6 6	(1146)	14 4461		. (400 000)		677,699,077	30,484,483	196,168,746
<u> </u>	287.0	Other Equipment	7.5.4	190,100,1	000,130,0	(241.1)	:	ò	(102,033)	(102,093)	1,383,843	3,138,628	4,245,215
2 5	0.70	Curen Equipment	0.20%	402,730	907,000	. ACC 33/	. ALC 33/		6	-	462,730	- 1	(97,479)
ţ		I otal Distribution Franc		coo, / / / cco, / &	•	ı	ı	, e	\$ (210,619)	\$ (210,619)	\$ 1,859,500,867	\$ 677,360,888	\$ 1,182,139,979
!	;	General Plant:	:		,	,	,	,					
Ç.	389.0	Land & Land Rights	¥ Ž	\$ 8,418,416		•	·	69	, 49	•	\$ 8,418,416	· •	\$ 8,418,416
16	390.1	Structures	1.84%	26,092,410	7,802,105	•	•	•	•	•	26,092,410	7,802,105	18,290,305
17	390.2	Structures - Leasehold Improvits	Amord	986,219	717,875	•	•	•	•		986,219	717,875	268,344
<del>,</del> ,	391.0	Office Furniture And Equipment	2.73%	5,655,651	920,003	٠	•	•	•		5,655,651	920,003	4,735,648
9	391.1	Computer Equipment	14.87%	8,563,368	(861,384)		•	•	•		8,563,368	(861,384)	9,424,752
20	392.1	Transportation Equipment	7.65%	31,153,543	3,183,715		•	•	•	٠	31,153,543	3,183,715	27,969,828
21	393.0	Stores Equipment	2.08%	542,520	26,553		•	•	. •		542,520	26,553	515,967
55	394.0	Tools, Shop And Garage Equip.	2.17%	5,225,024	(3,434,620)	•	•	•	•		5,225,024	(3,434,620)	8,659,644
53	395.0	Laboratory Equipment	3.93%	279,065	(272,649)	•	•			٠	279,065	(272,649)	551,714
54	396.0	Power Operated Equipment	3.88%	4,309,295	892,513	•	•	•	•	•	4,309,295	892,513	3,416,782
52	397.0	Communication Equipment	8.88%	2,658,259	2,623,207	•	•	•	•		2,658,259	2,623,207	35,052
26	397.2	Telemetering Equipment	6.19%	789,376	229,416	•	•	•	•		789,376	229,416	259,960
27	398.0	Miscellaneous Equipment	4.53%	-	18,215		•			•	892,348	18,215	874.133
78		Total General Plant		\$ 95,565,494	\$ 11,844,949	چ	<b>↔</b>	es.	s	\$	\$ 95,565,494	\$ 11,844,949	\$ 83,720,545
				-	(1)						-	£)	\$
59		TOTAL DIRECT PLANT		\$ 1,959,221,068	\$ 692,096,947	\$ (66,377)	\$ (66,377)	\$ 7	\$ (210,619)	\$ (210,619)	\$ 1,958,944,072	\$ 691,819,951	\$ 1,267,124,121
30		Allocated Plant (See RLM-4, Page 2, Line 31)	ne 31)	94,626,822	60,178,616	,	•	(79,237)	. (78	,	94,547,585	60,178,616	34,368,969
į		!											
<u>ب</u>		TOTAL PLANT		\$ 2,053,847,890	\$ 752,275,563	\$ (66,377)	\$ (66,377)	7) \$ (79,237)	37) \$ (210,619)	\$ (210,619)	\$ 2,053,491,657	\$ 751,998,567	\$ 1,301,493,090
35		Common Digest As Der Company		\$ 1,959,221,068	\$ 692,096,947	·	· •	· ••	, ss	, ss	\$ 1,959,221,068	\$ 692,096,947	1,267,124,121
33		Difference		\$	\$	\$ (66,377)	\$ (66,377)	(79,237)	37) \$ (210,619)	\$ (210,619)	\$ (356,233)	\$ (276,996)	34,448,206

References:

Columns (A) (B) (C): Company Workpapers
Column (D): Retirements Associated With CCNC (See RLM-5)
Column (E): Accumulated Deprecation Associated CCNC (See Testimony, RLM)
Column (E): System Allocable Adjustment Only (See RLM-4, Page 2)
Columns (F): System Allocable Adjustment Only (See RLM-4, Page 2)
Column (G): Retirements Associated With The Sale Of The TEP Bypass (See Testimony, RLM)
Column (I): Sum of Cols. (D) (B) & (G)
Column (I): Sum of Cols. (C), (E) & (H)
Column (I): Column (I) - Column (I)

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

# EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 2 "SYSTEM ALLOCABLE" TEST-YEAR PLANT SCHEDULES YEAR ENDED APRIL 30, 2007

					TEAR ENDED APRIL 30, 200								
			€	(B) COMPANY TEST YEAR AS FILED	(C) AS FILED	(D) ADJ. NO. 1	ADJ.	(E) ADJ. NO. 2	Œ	RUCO AS	(G) RUCO AS ADJUSTED		£)
LINE	ACCT		DEP	TOTAL PLANT	ACCUMULATED	DIRECT	INTAN	INTANGIBLES	TOTAL PLANT	ĺ.	ACCUMULATED	NET	NET PLANT
9 N	ON.	ACCOUNT NAME RA	RATE .	VALUE	DEPRECIATION	ADJM'T ONLY	RLM-1	RLM-10, PG 3,	VALUE	DEPRE	DEPRECIATION	>	VALUE
		intangible Plant:											
-	301.0		%00.0	\$ 61,816	· &	· &	ક્ર		\$ 61,816	\$ 91	,	₩	61,816
7	302.0	Consents	Amor'd	•	1	•			. 1		•		. '
က	303.0	Φ	Amor'd .	113,344,261	1	•		(139,748)			80,931,738		32,272,775
4		Total Intangible Plant	•	\$ 113,406,077	\$ 80,931,738	· •	မာ	(139,748)	\$ 113,266,329	₩	80,931,738	8	32,334,591
		Distribution Plant:											
ĸ	37/11	ohte	V/V	¥	¥	6	6		6	6		6	
<b>)</b> (	- 6		( <u> </u>	· <del>&gt;</del>	; <del>?</del>	•	9	•	9	Ð		Ð	•
1 0	274.6		<b>(</b> )	ı	•	4		•	•				
_	3/50	Ires	¥ ≯	•	•	•		•	•		•		
∞	376.0	Mains	٧×	•	180	•		•	•		•		•
တ	378.0	Measuring & Regulating Station	₹		•	•		1	•		•		
19	380.0		Ą	•	•	•		•	•				•
11	3810		A/A	•	•	•		ı					
. 5	387	ial Moseuring 9 Dog Station				•		1	•		٠		
4 5	2000	iiiig & heg. Station	<b>(</b> •	•		•		•	•				
2 ;	387.0			,									
4		i otal Distribution Plant	•	·	÷	•	εs		₩	မာ	•	ક	
		i i											
ų	0		ì		•	•	•						
<u>.</u>	0.000	nd Klights	0.00%	706,186		,	Ð		\$ 391,307	₩	ı	<del>()</del>	391,307
ا م	390.1		2.50%	13,961,544	3,733,837	r		•	13,961,544		3,733,837	<del>-</del>	0,227,707
1/	390.2	· ·	Amord	4,232,644	3,118,764	•		•	4,232,644		3,118,764		1,113,880
<u>0</u>	391.0	Equipment	8.16%	9,441,847	1,264,958	•		ř	9,441,847		1,264,958		8,176,889
9	391.1		16.15%	14,791,422	12,836,794	•			14,791,422		12,836,794		1,954,628
20	392.1		7.20%	3,495,826	646,045				3,495,826	56	646,045		2,849,781
7	393.0	avy Vehicles	20%	86,303	(37,694)	•			86,303	33	(37,694)		123,997
22	394.0		16.03%	24,106	5,299	•		•	24,106	90	5,299		18,807
23	395.0	ge Equip.	11.16%	232,096	(24,943)	ì		,	232,096	96	(24,943)		257,039
54	396.0	Laboratory Equipment 4.7	4.77%	281,078	75,601	•		•	281,078	82	75,601		205,477
52	397.0	it.	8.51%	5,376,875	3,611,659	i		,	5,376,875		3.611,659		1.765.216
56	397.2	Telemetering Equipment 40.	40.23%	286,958	27,661	Ī		•	286,958		27,661		259.297
27	398.0	***	11.09%		(54,592)	,		•		1.75	(54,592)		936.846
28		Total General Plant	•		\$ 25,203,389	5	es		\$ 53,484,260	 ⊌>	25,203,389	\$	28,280,871
			•	ı		`			ı				
58		TOTAL ALLOCABLE PLANT	•	\$ 166,890,337	\$ 106,135,127	<del>.</del>	မ	(139,748)	\$ 166,750,589	φ.	106,135,127	છ	60,615,462
30		Allocation Factor		56.70%	56.70%	26.70%	56	26.70%	56.70%	56.	26.70%	Š	%07.99
31		TOTAL ALLOCATE PLANT	•	\$ 94.626.822	\$ 60.178.616	<del>σ</del>	6	(79.237)	1 04 547 585	þ	(1) 60 178 616	4	37 368 067
					ı	<b>)</b>	,	: (,,,,,,,	1	•	0,0,0,0	1	4,300,301

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## EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 4 ACCUMULATED DEFERRED INCOME TAX (ADIT) ASSOCIATED WITH MIP AND SERP

LINE			(A) ASSOCIATED /ITH MIP	ADI	(B) TASSOCIATED WITH MIP		(C) ASSOCIATED VITH SERP	
NO	DESCRIPTION	ACC	T 20701371	AC	CT 24201371	AC	CT 24201387	REFERENCE
1	Deferred Income Tax Asset (Liability) April 30, 2007	\$	406,289	\$	1,775,833	\$	7,804,183	Co. Response To Staff DR 11-11
2	April 30, 2006		631,459		497,556		7,449,748	Co. Response To Staff DR 11-11
3	Test-Year ADIT	\$	225,170	\$	(1,278,277)	\$	(354,435)	Sum Lines 1 And 2
4	Total ADIT Assoicated With MIP			\$	(1,053,107)			Sum Columns (A) & (B), Line 3
5	RUCO Adjustment To Split MIP 50% - Ra	atepayers	& Shareholde	rs	50.00%			See RLM Testimony & RLM-13
6	RUCO Adjusted MIP			\$	(526,554)			Line 4 X Line 5
7	RUCO Adjusted SERP					\$	(354,435)	Line 3, Column (C)
8	Total Adjustment To Test-Year ADIT					\$	(880,989)	Sum Line 6 And 7
9	RUCO Adjustment (See RLM-2, Co	olumn (B	), Line 8)			\$	(880,989)	Line 8

## EXPLANATION OF SWG TEST-YEAR RATE BASE ADJUSTMENT NO. 1 - CONT'D COMPLETED CONSTRUCTION NOT CLASSIFIED

		COMPLETE	DCONSTRUCTIO	N NOT CLASSIF	-IED			
			(A)	(B)	(C)	(D)		(E)
			` '	` ,	` ,	ACTUAL		ACTUAL
	ACOT		CONOT	DETIDEIT	IN CCD			
LINE	ACCT.		CONST.	RETIRE'T	IN-SER.	CONST.		RETIRET
<u>NO.</u>	NO.	DESCRIPTION	WK ORDER	WK ORDER	DATE	COST		COST
		ARIZONA DIRECT						
		Intangible Plant						
1	303	Miscellaneous Intangible				\$ -	\$	-
2		Total Intangible				\$ -		
		Distribution						
3	374	Land and Land Rights				\$ 733,12	6 \$	_
•	• • •	Mains				*	- •	
4	376	Franchise Replacements				\$ 527,57	4 \$	_
5	376	•				190,56		
		Regular Replacement				•		-
6	376	Pressure Reinforcement				121,74		-
7	376	Cathodic Protection				171,75		-
8	376	High Pressure Dist.				518,42		
9		Total Acct 376				\$ 1,530,06	<u>4 \$</u>	(22,897)
10	378	Regulator Station				\$ 325,67	5 \$	(41,047)
11	380	Services				-		(1,288)
12	385	Regulator Station-Lrg				117,13	)	(1,145)
								, , ,
13		Total Distribution Plant				\$ 2,705,99	5 \$	(66,377)
		General						
14	390.1	Structures and Improve.				\$ 27,44	3 \$	_
15	391	Office Furniture & Equip.				215,49		
16	392	Transportation Equip.				27,18		
						21,10	,	•
17	391.1	Computer Equipment				<u> </u>		
18		Total General Plant				\$ 270,12	<u> </u>	-
40		CURTOTAL ARIZONA DIRECT CON	CRIANT			£ 2.076.11	5 \$	(66.277)
19		SUBTOTAL ARIZONA DIRECT CCN	CPLANT			\$ 2,976,11	<u>`</u>	(66,377)
		SYSTEM ALLOCATE PLANT						
		Intangible Plant						
20	303	Miscellaneous Intangible				\$ 1,696,00		-
21		Total Intangible				\$ 1,696,00	) \$	•
		General						
22	390.1	Structures and Improve.				\$ 265,25	1 \$	-
23	391	Office Furniture & Equip.				28,25	3	-
24	392	Transportation Equip.				•		-
25	391.1	Computer Equipment				432,58	,	-
26	••••	Total General Plant				\$ 726,09		-
							_ —	
27		SUBTOTAL SYSTEM ALLOCATE CO	CNC PLANT			\$ 2,422,09	5 \$	-
						<del></del>	- <u> </u>	
28		Allocation Factor (Arizona 4 Factor	4			56.70	4	56.70%
20		Allocation Factor (Arizona 4-Factor	,			30.10	U	30.70 /0
20		CURTOTAL AMOUNT ALLOCATED	TO ADIZONA CONC	DLANT		\$ 1,373,33	5 5	
29		SUBTOTAL AMOUNT ALLOCATED	TO ARIZONA CONC	FLANT		\$ 1,373,33	<u> </u>	
00		TOTAL CONC. DI ANT				<b>6</b> 4545 11		(00 077)
30		TOTAL CONC PLANT				\$ 4,349,44	<u> </u>	(66,377)
						<b>A</b> ( - : - : - : - : - : - : - : - : - : -		
31		RUCO RECOMMENDED TOTAL	. CCNC PLANT			\$ 4,349,44	<u> </u>	(66,377)
32		Company As Filed				4,349,44	;	-
33		RUCO ADJUSTMENT TO ARIZO	NA DIRECT CONC			\$ -	- \$	(66,377)

## EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 5 SUMMARY OF THE ALLOWANCE FOR WORKING CAPITAL

(A)

LINE			
NO.	DESCRIPTION	REFERENCE	 AMOUNT
1 2	Cash Working Capital Per SWG Cash Working Capital Per RUCO	SWG SCH. B-5, Page 1 RLM-6, Page 2, Line 14	\$ (10,379,937) (15,229,282)
3	Adjustment	Line 2 - Line 1	\$ (4,849,345)
4 5	Materials And Supplies Per SWG Materials And Supplies Per RUCO	SWG SCH. B-5, Page 1 SWG SCH. B-5, Page 1	\$ 12,389,898 12,389,898
6	Adjustment	Line 5 - Line 4	\$ -
7 8	Prepayments Per SWG Prepayments Per RUCO	SWG SCH. B-5, Page 1 RLM-6, Page 5, Line 15	\$ 3,671,971 4,013,462
9	Adjustment	Line 8 - Line 7	\$ 341,491
10	Total Adjustment	Sum Lines 3, 6, & 9	\$ (4,507,854)

Schedule RLM-6 Page 2 of 5

# EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 5 - CONT"D ALLOWANCE FOR WORKING CAPITAL LEAD/LAG DAY SUMMARY

		(A) COMPANY	(B)	(C) RUCO	(D)	(E)
LINE		EXPENSES	RUCO	EXPENSES	(LEAD)/LAG	DOLLAR
NO.	DESCRIPTION	AS FILED	ADJUSTM'TS	AS ADJUSTED	DAYS	DAYS
1	Cost Of Gas	\$ 540,064,385	\$ -	\$ 540,064,385	42.30	\$ 22,842,405,297
2	Labor Cost	117,038,570	(6,513,626)	110,524,944	12.33	1,363,305,727
3	Provision For Uncollectible Accts	2,977,729	(752,652)	2,225,077	120.00	267,009,303
4	Other O & M	54,826,860	(8,127)	54,818,733	17.72	971,137,425
	Total O & M Expenses	\$ 714,907,544	\$ (7,274,405)	\$ 707,633,139	35.96	\$ 25,443,857,753
5	Interest	\$ 48,035,008	1,675,397	\$ 49,710,405	82.73	\$ 4,112,541,775
6	Taxes Other Than Income Taxes	33,124,880		33,124,880	185.34	6,139,365,177
7	Income Taxes	21,699,571	9,975,295	31,674,866	37.00	1,171,970,019
8	Revenue Taxes	97,747,450	3,201,610	100,949,060	51.75	5,224,113,855
9	Total Operating Expenses	\$ 915,514,453	\$ 4,376,287	\$ 923,092,350	45.60	\$ 42,091,848,579
10	Revenue Lag				39.53	Co. Workpapers
11	novonuo Lug				(6.07)	Line 10 - Line 9
12	Number Of Days In Test Period	365	Test Year			
13	Average Daily Operating Expenses	\$ 2,508,259	Col. (A) Line 9 / L	ine 12		
14	Net Difference Rev - Exp Lag	(6.07)	Col. (D) Line 11			3
15	Cash Working Capital	\$ (15,229,282)	Col. (A), Line 13 X	Line 14		

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

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# EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 5 - CONT"D ALLOWANCE FOR WORKING CAPITAL CALCULATION OF PREFERRED EQUITY LAG

LINE NO.	MID-POINT OF SERVICE PERIOD	(A) PAYMENT DATE	(B) PERCENT PAYMENT	(C) (LEAD)/LAG DAYS	(D) DOLLARS DAYS
1	7/1/2006	3/31/2006	25.00%	(92)	(23.00)
2	7/1/2006	6/30/2006	25.00%	(1)	(0.25)
3	7/1/2006	9/30/2006	25.00%	91	22.75
4	7/1/2006	12/31/2006	25.00%	183	45.75
5	Totals		100.00%		45.25
5	Iotais		100.0076		40.20
6	Preferred Equity Lag			45.25	

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

Schedule RLM-6 Page 4 of 5

# EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 5 - CONT"D ALLOWANCE FOR WORKING CAPITAL CALCULATION OF OTHER O & M LAG

		(A)	(B)		(C)
LINE		0007		5.0	N. I. A.D. D. A.V.O.
<u>NO.</u>	MONTH	 COST	LAG DAYS		DLLAR DAYS
1	May 2006	\$ 2,596,715	0.22	\$	566,253
2	June	2,611,117	35.16		91,799,499
3	July	2,546,481	18.55		47,227,421
4	August	2,460,510	36.74		90,404,740
5	September	2,021,521	35.60		71,973,470
6	October	3,018,228	52.99		159,935,937
7	November	2,733,777	45.29		123,820,351
8	December	3,394,550	(6.46)		(21,943,520)
9	January 2007	5,019,712	(2.82)		(14,168,034)
10	February	5,258,382	9.77		51,397,591
11	March	4,466,924	29.44		131,524,579
12	April	2,608,462	(17.75)		(46,306,652)
13	Total	\$ 38,736,380	17.72	\$	686,231,635

### EXPLANATION OF TEST-YEAR RATE BASE ADJUSTMENT NO. 5 - CONT"D **ALLOWANCE FOR WORKING CAPITAL CALCULATION OF ADJUSTED PREPAYMENTS**

LINE NO.	MONTH	E	(A) BALANCE	(B) DEBITS	 (C) CREDITS	(D) ADJUSTED BALANCE
1	April 2006	\$	5,367,019	\$ -	\$ -	\$ 5,367,019
2	Мау		4,571,452	18,221	-	4,589,673
3	June		3,756,402	-	1,518	3,773,104
4	July		5,219,958	22,000	1,518	5,257,142
5	August		9,299,535	195,806	3,352	9,529,173
6	September		8,623,454	15,186	19,669	8,848,609
7	October		7,836,438	66,720	20,934	8,107,379
8	November		6,430,014	128,656	26,494	6,803,117
9	December		9,144,710	163,132	37,216	9,643,729
10	January 2007		8,343,687	112,506	50,810	8,904,402
11	February		7,723,320	126,085	60,186	8,349,935
12	March		6,044,664	76,149	70,693	6,676,735
13	April		5,600,962	13,396	77,038	 6,169,390
14	Total	\$	87,961,615			\$ 92,019,406
15	13 Month Average	\$	6,766,278		56.70%	\$ 4,013,462

Column (A): Company Schedule B-5, Page 4

Column (B): Company Schedule B-5, Workpaper Sheets 30 - 59

Column (C): Column (B) Prior Months Accurals / 12 Months
Column (D): Column (D) Prior Month + Column (B) Current Month - Column (C) Current Month + Column (A) Current Month - Column (A) Prior Month

### **OPERATING INCOME**

LINE NO.	DESCRIPTION		(A) COMPANY AS FILED		(B) RUCO TEST YEAR IDJTMENTS	(C) RUCO TEST YEAR IS ADJUSTED	 (D) RUCO PROPOSED CHANGES	RE	(E) RUCO AS COMMENDED
1	Revenues	\$	399,234,678	\$	-	\$ 399,234,678	\$ 31,296,285	\$	430,530,964
2	Gas Cost		-		-	-	 -		
3	TOTAL MARGIN	\$	399,234,678	\$	-	\$ 399,234,678	\$ 31,296,285	\$	430,530,964
	EXPENSES:								
4	Other Gas Supply	\$	701,601	\$	(25,254)	\$ 676,347	\$	\$	676,347
5	Distribution	-	89,528,455	•	(2,467,490)	87,060,965			87,060,965
6	Customer Accounts		38,730,909		(1,811,510)	36,919,399	-		36,919,399
7	Customer Information		1,126,796		(20,117)	1,106,679	-		1,106,679
8	Sales		-		•	-	-		-
	Administrative & General								
9	Direct		4.009,539		(290,519)	3,719,020	-		3,719,020
10	System Allocable		52,937,155		(2,659,515)	50,277,640			50,277,640
	Depreciation & Amortization								
11	Direct		80.956,247		(11,621)	80,944,625	-		80,944,625
12	System Allocable		6,646,938		(46,583)	6,600,356	<u>.</u>		6,600,356
13	Regulatory Amortizations		284,528			284,528	-		284,528
14	Other Taxes		33,124,880		_	33,124,880			33,124,880
15	Interest On Cust. Deposits		1,915,314		-	1,915,314	-		1,915,314
16	Income Taxes		16,092,218		3,118,244	19,210,462	12,464,404		31,674,866
17	TOTAL EXPENSES	\$	326,054,578	\$	(4,214,365)	\$ 321,840,214	\$ 12,464,404	\$	334,304,618
18	NET INCOME (LOSS)	\$ \$	73,180,098			\$ 77,394,464		\$	96,226,345

### References:

nces:
Column (A): Company Schedule C-1
Column (B): Testimony, RLM And Schedule RLM-8
Column (C): Column (A) + Column (B)
Column (D): Testimony, RLM And Schedule RLM-1, Pages 1 & 2
Column (E): Column (C) + Column (D)

Schedule RLM-8 Page 1 of 2

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

SUMMARY OF OPERATING INCOME ADJUSTMENTS TEST YEAR AS FILED AND ADJUSTED

				IESI TEAK A	IEST TEAK AS FILED AND ADJUSTED	ADJUSTED				
		€	(8)	(C)	( <u>D</u>	Œ	(F)	<u>(G</u>	Ĩ	€
			ADJ. NO. 1	ADJ. NO. 2	ADJ. NO. 3	ADJ. NO. 4	ADJ. NO. 5	ADJ. NO. 6	ADJ. NO. 7	ADJ. NO. 8
			LABOR AND	INJURIES AND	PAIUTE	ANNUALIZED	ANNUALIZED	UNNECESS		
LINE		COMPANY	LABOR LOAD	DAMAGES	ANNUALZ'N	DEP/AMORT	PROP'TY TAX	EXPENSES	MIP	SERP
ON N	DESCRIPTION	AS FILED	SCH. RLM-9	TSTM'Y-RLM	TSTM'Y-RLM	SCH. RLM-10	SCH. RLM-11	SCH. RLM-12	SCH. RLM-13	SCH. RLM-14
•	Revenues	\$ 399,234,678	, <del>6</del> 9	49	· •	· e	· <del>•</del>	·	¥	<del>4</del>
. ~	Gas Cost				,	,	•	•	•	•
ıκ	TOTAL MARGIN	\$ 399,234,678	- \$	- \$	· \$	\$	\$	\$	\$	\$
	EXPENSES:									
4	Other Gas Supply	\$ 701 601	(15,070)	S		e.	•	e	6	(10.104)
. rc	Distribution	8	Ξ	•	•	·	· •	(440 000)	•	(10,104)
y (c	Customer Accounts	38 720 000	(649,202)	1		•	•	(600'011)	•	(440,044)
ום	Customer Accounts	50,730,909	(018,707)	•	•		•	•	•	(428,347)
7	Customer Information	1,126,796	(11,910)	•	•	•	•	•	•	(8,206)
œ	Sales	•	٠	•	,	•	•	•	•	
	Administrative & General		•	•	٠	•	•			•
တ	Direct	4,009,539	(21,716)	•	•	•	•	•	(145.002)	(54.102)
9	System Allocable	52,937,155	(580,819)	283,644	(17,702)		•	(93,561)	(1,760,046)	(491,031)
	Depreciation & Amortization		•		•	,	•	•	•	
7	Direct	80,956,247	•	•		(11,621)	•	•	•	•
12	System Allocable	6,646,938	•	•	•	(46,583)	•	•		•
13	Regulatory Amortizations	284,528	•	•	•	•	•	,	٠	
4	Other Taxes	33,124,880	•		•	•		•	•	,
15	Interest On Cust. Deposits	1,915,314	•	•	•	•	•	•		•
16	Income Taxes	16,092,218	•	•	•	•	٠	•	ı	•
17	TOTAL EXPENSES	\$ 326,054,579	\$ (2,613,490)	\$ 283,644	\$ (17,702)	\$ (58,204)	· &	\$ (204,370)	\$ (1,905,048)	\$ (1,940,914)
<del>2</del>	NET INCOME (LOSS)	\$ 73,180,099								

Southwest Gas Corporation Docket No. G-01551A-07-0504 Test Year Ended April 30, 2007

# SUMMARY OF OPERATING INCOME ADJUSTMENTS

				TEST YEAF	TEST YEAR AS FILED AND ADJUSTED	ND ADJUSTED					
		(٢)	\$	()	(W)	Ŝ.	<u>(</u> )	E.	(P)	ĝ	(R)
		ADJ. NO. 9	ADJ. NO. 10	ADJ. NO. 11						ADJ. NO. 12	
		EMPLOYEE	UNCOLL'TIBLE	GAIN ON SALE	INTENT'LY	INTENT'LY	INTENT'LY	INTE	INTENT'LY	INCOME	
LINE		RECOGNITION	EXPENSE	- PROPERTY	LEFT	LEFT	LEFT	Щ	LEFT	TAX	RUCO
Ö	DESCRIPTION	TSTM'Y-RLM	SCH. RLM-15	SCH. RLM-16	BLANK	BLANK	BLANK	BLANK	¥	SCH. RLM-17	AS ADJUSTED
-	Revenies	45	, <del>(</del>	€	€	e,	<del>U</del>	¥		·	£ 300 234 678
- 2	Gas Cost	•	,	,	,	•	· •	<b>,</b>			010,500,000
ı m	TOTAL MARGIN	<del>ا</del>	<u>ا</u>	<del>'</del>	<u>.</u>	\$	\$	\$	.	\$	\$ 399,234,678
	EXPENSES:										
4	Other Gas Supply	, \$	, \$	, \$	, 69	· \$7	· \$	€9		49	\$ 676.347
ß	Distribution	(43,370)		•	•	•	•		,	•	87
9	Customer Accounts	(10,804)	(752,652)	•	•	•	•		•	•	36,919,399
7	Customer Information	•	•	•	•	•	٠			•	1,106,679
∞	Sales	•	•	•	•	•	•				•
										•	,
	Administrative & General	•	•		•	•	•				•
თ	Direct		•	(69'69)	•	•	•			•	3,719,020
9	System Allocable		•	•	•	•				,	50,277,640
					•	•	•			•	•
	Depreciation & Amortization	•	Ī	•	•	•	•			•	•
7	Direct	•	•	•	•	•	•		•	•	80,944,625
12	System Allocable	•	,	•	•	•	•			•	6,600,356
13	Regulatory Amortizations	•		•	•	•	•			•	284,528
					•	•	•				•
4	Other Taxes	•	•	•	•	•	•			•	33,124,880
15	Interest On Cust. Deposits		•	•	•	•	•			•	1,915,314
16	Income Taxes	•	,	•	•	F	•			3,118,244	19,210,462
17	TOTAL EXPENSES	\$ (54,174)	\$ (752,652)	(669'69)	, <del>S</del>	<del>69</del>	<u>.</u>	₩	$ \cdot $	\$ 3,118,244	\$ 321,840,214
<del>2</del>	NET INCOME (LOSS)										\$ 77,394,464

Schedule RLM-9 Page 1 of 1

## **EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 1** LABOR AND LABOR LOADING ADJUSTMENT

LINE NO.	DESCRIPTION	LABOR 8	(A) COMPANY LABOR LOADING DJUSTMENT		(B) RUCO LABOR LOADING ADJUSTED	(C) RUCO & LABOR LOADING DJUSTMENT
1	Other Gas Supply	\$	16,522	\$	1,452	\$ (15,070)
2	Distribution		1,539,648		175,380	(1,364,268)
3	Customer Accounts		694,914		75,208	(619,707)
4	Customer Information		13,313		1,402	(11,910)
5	Sales		-		-	-
	Administrative & General					
6	Direct		24,518		2,803	(21,716)
7	System Allocable		578,837		(1,982)	(580,819)
8	TOTAL	\$	2,867,752	\$	254,262	\$ (2,613,490)
9	RUCO ADJUSTMENT TO LABO	R AND LABOR L	OADING (See RLM-	7, Page 1, Co	ol (B))	\$ (2,613,490)

### References:

Column (A): Company WP's C-2, Column (d)
Column (B): See RUCO WP's Labor & Loading Adj. # 1 (Deficiency / C-2 Adjustments / Column (d))

Column (C): Column (B) - Column (A)

### **EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4** DIRECT PLANT TEST YEAR DEPRECIATION EXPENSE

LINE NO.	ACCT. NO.			(A) TOTAL PLANT VALUE	(B) CO. PROPOSED DEPRECIATION RATE	(C) TEST YEAR DEPREC'N EXPENSE
1	301	Intangible Plant: Organization	\$	42,653	Amortized	\$ -
2	302	Franchises & Consents		1,877,392	Amortized	61,015
3	303	Miscellaneous Intangible		1,957,665	Amortized	 12,594
4		Total Intangible Plant	\$	3,877,710		\$ 73,609
		Distribution Plant:				
5	374.1	Land & Land Rights	\$	1,084,811	NA	\$ <del>-</del>
6	374.2	Rights Of Way		1,064,064	2.17%	23,051
7	375	Structures		110,557	0.39%	431
8	376	Mains		984,753,881	3.82%	37,617,598
9	378	Measuring & Regulating Station		32,713,046	4.12%	1,347,777
10	380	Services		605,264,706	5.30%	32,079,029
11	381	Meters		226,663,229	1.98%	4,487,932
12	385	Industrial Measuring & Regulating Station		7,383,843	4.31%	318,244
13	387	Other Equipment		462,730	5.26%	 24,340
14		Total Distribution Plant	<u>\$</u>	1,859,500,867		\$ 75,898,402
		General Plant:				
15	389	Land & Land Rights	\$	8,418,416	· NA	\$ ·-
16	390.1	Structures		26,092,410	1.84%	480,100
17	390.2	Structures - Leasehold Improvments		986,219	Amortized	53,321
18	391	Office Furniture And Equipment		5,655,651	2.73%	154,399
19	391.1	Computer Equipment		8,563,368	14.87%	1,273,373
20	392.1	Transportation Equipment		31,153,543	7.65%	2,383,246
21	393	Stores Equipment		542,520	2.08%	11,284
22	394	Tools, Shop And Garage Equipment		5,225,024	2.17%	113,383
23	395	Laboratory Equipment		279,065	3.93%	10,967
24	396	Power Operated Equipment		4,309,295	3.88%	167,201
25	397	Communication Equipment		2,658,259	8.88%	236,053
26	397.2	Telemetering Equipment		789,376	6.19%	48,862
27	398	Miscellaneous Equipment		892,348	4.53%	40,423
28		Total General Plant	\$	95,565,494		\$ 4,972,614
29		Total Direct Plant, Depreciation And Amortization	\$	1,958,944,071		\$ 80,817,695
30		Total Amortization - Limited Term Gas Plant				 126,930
31		Total Depreciation and Amortization				\$ 80,944,625
32		Company As Filed		1,959,221,067		 80,956,247
33		Difference	_	(276,996)		\$ (11,621)
34	RUCO A	DJUSTMENT TO TEST YEAR DIRECT DEPRECIATION EX	PENSE (S	See RLM-8, Page 1	, Column (E))	\$ (11,621)

### References:

Column (A): RLM-4, Page 1, Column (M)
Column (B): Company Workpapers
Column (C): Column (A) X Column (B)

## EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4 - CONT'D SYSTEM ALLOCABLE PLANT TEST YEAR DEPRECIATION EXPENSE

		STOTEM ALLOCABLE FLANT TE	OI ILAK DE	(A)	AI LIIOL		(0)
				(A)	(B)		(C)
				TOTAL	CO. PROPOSED	T	EST YEAR
LINE	ACCT.			PLANT	DEPRECIATION	(	DEPREC'N
NO.	NO.			VALUE	RATE		EXPENSE
		Intangible Plant:					
1	301.0	Organization	\$	61,816	0.00%	\$	-
2	302.0	Franchises & Consents		-	Amortized		-
3	303.0	Miscellaneous Intangible		113,204,513	Amortized	#	7,058,485
4		Total Intangible Plant	\$	113,266,329		\$	7,058,485
		Distribution Plant:					
5	374.1	Land & Land Rights	\$	•	0.00%	\$	•
6	374.2	Rights Of Way		-	0.00%		•
7	375.0	Structures		-	0.00%		-
8	376.0	Mains		-	0.00%		-
9	378.0	Measuring & Regulating Station		-	0.00%		•
10	380.0	Services		_	0.00%		
11	381.0	Meters		-	0.00%		-
12	385.0	Industrial Measuring & Regulating Station			0.00%		-
13	387.0	Other Equipment		-	0.00%		_
14	007.0	Total Distribution Plant	-\$		0.0070	\$	
• • •		General Plant:				<u> </u>	
15	389.0	Land & Land Rights	\$	391,307	0.00%	\$	_
16	390.1	Structures	Ψ	13,961,544	2.50%	Ψ	348,983
17	390.2	Structures - Leasehold Improvments		4,232,644	Amortized		184,348
18	391.0	Office Furniture And Equipment		9,441,847	8.16%		770.455
19	391.1	Computer Equipment		14,791,422	16.15%		2,388,755
20	392.1	Transportation Equipment		3,495,826	7.20%		251,699
21	393.0	Stores Equipment		86,303	7.20%		6,214
22	394.0			24,106	16.03%		3,864
	394.0 395.0	Tools, Shop And Garage Equipment		232,096	11.16%		25,902
23		Laboratory Equipment			4.77%		,
24	396.0	Power Operated Equipment		281,078			13,407
25	397.0	Communication Equipment		5,376,875	8.51%		457,594
26	397.2	Telemetering Equipment		286,958	40.23%		115,443
27	398.0	Miscellaneous Equipment		882,254	11.09%	_	97,845
28		Total General Plant	<u>*</u>	53,484,260		\$	4,664,510
29		Total System Allocable Plant, Depreciation And Am	nortization \$	166,750,589		\$	4,480,162
30		Total Amortization - Limited Term Gas Plant (See F			1	•	7,160,677
31		Total Depreciation and Amortization	,		,	\$	11,640,839
			_				
32		Company As Filed	\$	166,890,337		\$	11,722,995
33		Difference	\$	(139,748)		\$	(82,156)
34		Allocation Factor		56.70%			56.70%
35		TOTALS	\$	(79,237)		\$	(46,583)
				<del></del>			
36	BLICO A	DJUSTMENT TO TEST YEAR SYSTEM ALLOCATED DI	EDDECIATION	(See DI M-8 Dec	o 1 Column (E)\	\$	(46,583)
30	RUUU A	ADJUSTIMENT TO TEST TEAR STOTEM ALLOCATED DI	LINEUMINON	(OGG INLINI-O, FA(	ge 1, ∪∪iu⊞i (⊑ <i>))</i>	***************************************	(40,000)

#### References:

Column (A): RLM-4, Page 2, Column (M)

Column (B): Company Workpapers

Column (C): Column (A) X Column (B) Plus Further Clarification RLM-10, Page 3

## **EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 4 - CONT'D** ANNUALIZATION SYSTEM ALLOCABLE PLANT DEPRECIATION AND AMORTIZATION

	ANNUALIZATI	ON SISIEW ALI	LOCABLE FLAN	DEFRECIATIO	AND ANON	IZATION (E)
		(A)	(B)	(C)	(D)	(E)
		ESTIMATED		ACTUAL		
LINE		CWIP	ADJMT TO	PIS	ANNUALIZED	)
NO.	DESCRIPTION	INTANGIBLES	INTANGIBLES	INTANGIBLES	PROVISION	REFERENCE
	Projects in CWIP Which Closed	Before 12/31/07 (P	er Co. Response T	o STF 11.4)		
1	Autocad Map 3D 2007	\$ 180,000	\$ (51,871)	\$ 128,129	\$ 42,710	
2	Pi Data Access	24,000	1,900	25,900	8.633	
3	Receivables Software	105,000	(28,916)	76.084	25,361	
4	Load Balancer	38,000	(219)	37,781	12,594	
5	MacKinney VS/Cobol License	10,500	(10,500)		,	
6	Citrix Presentation License	83,000	(372)	82,628	27,543	
7	San Lefthand Network Expan	15,500	(11)	15,489	5,163	
8	EMRS/LMR Software Module	430,000	(430,000)	10,400	-	
9	EMRS Software	350,000	(350,000)	_	_	
10	Oracle UPK Licenses	250,000	(60,602)	189.398	63,133	
11	Oracle PUI Licenses	210,000	(37,600)	172,400	57,467	
" "	Oracle FOI Licenses	210,000	(37,000)	172,400	37,407	
	Revised List Of Projects in CWIF	Which Closed Re	fore 12/31/07 (Per	Co. Supplement Re	enonee To STF	6 49)
12	Comm Vault Licenses	-	10,419	10,419	3,473	0.40)
13	ACD Reporting License	_	20,678	20,678	6,893	
14	Powerbroker License	_	10,926	10,926	3,642	
15	Tivoli Workload Scheduler	_	110,638	110,638	36,879	
16	Powerbroker License	_	11,960	11,960	3,987	
17	Trident OS/EM Licenses	_	55,300	55,300	18,433	
18	MAPX GIS Software	_	35,030	35,030	11,677	
19	Oracle Internet Licenses	-	49,177	49,177	16,392	
20	HP Licenses	-	54,728	54,728	•	
21	Ops Mgr Server Licenses	-	61,285	61,285	18,243 20,428	
21	WMS Test Project	•	301,580	301,580	100,527	
22	WWS Test Project		301,300	301,360	100,527	•
23	TOTALS	\$ 1,696,000	\$ (246,470)	\$ 1,449,530	\$ 483,177	Sum Of Lines 1 Thru 22
20	)	Ψ 1,000,000	Ψ (240,470)	Ψ 1,440,000	Ψ 400,177	Juli Of Ellies 1 11114 22
24	RUCO System Allocable Adjustn	nent	\$ (246,470)			Line 23, Column (B)
25	Arizona 4-Factor	TOTAL STATE OF THE PARTY OF THE	56.70%			Co. W/P Dep-Amort Adjmt
26	RUCO Allocated Arizona Rate B	ase Adjustment	\$ (139,748)			Line 24 X Line 25
20	Troop, modular, meana rate b	abo , lajabanioni	<del>(100), (0)</del>			Ellio 24 X Ellio 23
27	RUCO RB Adjmt No. 2 (See RLM	M-4. Pa 2. Col (E))	\$ (139,748)			Line 26
	( · · · · · · · · · · · · · · · ·	, . 3 =, (=//				2
28		RUCO Adjust	ed Amort. CWIP Tr	ansferred To PIS	\$ 483,177	Line 23, Column (D)
29		,,,,		t. Intangible Plant	6,493,152	Co. W/P Dep-Amort Adjmt
30		Record	led Amort. Leaseho	•	184,348	Co. W/P Dep-Amort Adjmt
31			RUCO Adjusted De	•	\$ 7,160,677	Sum Of Lines 28 Thru 30
32			-	ep/Amort Expense	7,560,997	Co. W/P Dep-Amort Adjmt
33		RUCO Adjusted	d Total System Allo		(400,320)	
34		-	d Total System Alo		186,182	Co. W/P Dep-Amort Adjmt
35			ed Total System All	•	(214,138)	
36				Arizona 4-Factor	56.70%	Co. W/P Dep-Amort Adjmt
37		RUCO A	djusted System All		(121,416)	
38			Adjusted System All	•	(74,834)	Co. Adjmt No. 14
39			djusted System All	•	(46,582)	Line 37 - Line 38
		// // // // // // // // // //	,		(10,002)	
40	RU	CO Adjustment (Se	ee RLM-8, Pages 1	& 2. Column (M))	(46,582)	Line 39
	1.0	,		=, : :::::::: ())		•

## References:

Column (A): Company Workpapers "Dep-Amort Adjustment"

Column (B): Column (C) - Column (A)

Column (C): Company Response To Staff Data Request 11.4 And Response To Staff Dr 6.49 Column (D): Column (C) Amortized Over Three Years

## EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 5 PROPERTY TAX COMPUTATION

LINE					
NO.	DESCRIPTION	. <u></u>	(A)		(B)
	Calculation Of The Company's Full Cash Value:				
1	Net Plant In Service			\$	1,267,124,121
	ADD:				
2	Materials And Supplies (RLM-6, Page 1, Line 5)	\$	12,389,898		
3	Total (Line 2)			\$	12,389,898
	SUBTRACT:				
4	Original Cost New Balance Of Transportation Equipment (Company Workpapers)	\$	27,969,828		
5	Land Rights (Company Workpapers)	\$	1,823,920		
6	Total (Line 2)			\$	(29,793,748)
7	COMPANY'S FULL CASH VALUE (Sum Of Lines 1, 3, & 6)			\$	1,249,720,271
	Calculation Of The Company's Tax Liability:				
	MULTIPLY: Company Full Cash Value By Valuation Assessment Ratio And Then By Prope	rty Tax	Rates:		
8	Assessment Ratio (Per House Bill 2779)		23.0%		
9	Assessed Value (Line 7 X Line 8)	\$	287,435,662		
	Property Tax Rates:				
10	Primary Tax Rate (2004 Tax Notice - Co.'s Data Response - "Property Tax")		11.52%		
11	Secondary Tax Rate (2004 Tax Notice - Co.'s Data Response - "Property Tax")		0.00%		
12	Estimated Tax Rate Liability (Line 10 + Line 11)		11.52%		
13	COMPANY'S TAX LIABILITY - Based On Full Cash Value (Line 12 X Line 13)			\$	33,112,588
14	Test Year Adjusted Property Tax Expense Per Company's Filing (Co. Sch. C-2, Adj No. 15))	<u>\$</u>	33,112,588		
15	Increase (Decrease) In Property Tax Expense (Line 13 - Line 14)	\$	-		
16	RUCO ADJUSTMENT TO PROPERTY TAX EXPENSE (See RLM-8, Page 1, Column (F))			\$	•

## EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 6 MISCELLANEOUS ADJUSTMENTS

		(A)	(B)	(C)	(D)
		RL	JCO ADJUSTMEN	TS	
LINE		ALLOCABLE	ALLOC'N	ARIZONA	RUCO
_NO_	DESCRIPTION	TOTAL	FACTOR	TOTAL	AS ADJUSTED
	Arizona Direct Accounts				
1	880 - Other Expenses	(110,809)	100.00%	(110,809)	
2	Sub Total Arizona Direct Accounts	\$ (110,809)			\$ (110,809)
	System Allocable Accounts To Arizona				
3	921 - Office Supplies And Expenses	\$ (148,689)	56.70%	\$ (84,306)	
4	930 - Miscellaneous General Expenses	(16,322)	56.70%	(9,254)	
5	Sub Total Administrative And General Expenses	\$ (165,010)		\$ (93,561)	
6	Sub Total System Allocable Accounts To Arizona	\$ (165,010)			\$ (93,561)
7	TOTAL				(204,370)
8	RUCO ADJUSTMENT TO MISCELLANEOUS ADJUSTMENTS	S (See RLM-8, Page 1, Colu	ımn (G))		\$ (204,370)

#### References:

Column (A): Workpapers Exhibit A (880) Pages 1 To 18, (921) Pages 1 To 14, (923) Page 1, And (930) Page 1

Column (B): Company Workpapers
Column (C): Column (A) X Column (B)
Column (D): Sums Of Column (C)

Schedule RLM-13 Page 1 of 1

## EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 7 MANAGEMENT INCENTIVE PROGRAM

		(A)	(B)	(C)	(D)
LINE	DESCRIPTION	ALLOCABLE TOTAL	ALLOC'N FACTOR	ARIZONA TOTAL	RUCO AS ADJUSTED
1 2 3 4	Arizona Direct Accounts Exempt Special Incentive Service Planning Quality Incentive Award Sub Total Arizona Direct Accounts Allocation Factor At A 50/50 Split	290,004 \$ 290,004	100.00% 100.00%	290,004 \$ 290,004 -50.00%	\$ (145,002)
5 6 7 8 9	System Allocable Accounts To Arizona Management Incdentive Plan Exempt Special Incentive Service Planning Quality Incentive Award Sub Total Administrative And General Expenses Allocation Factor At A 50/50 Split Sub Total System Allocable Accounts To Arizona	\$ 5,919,502 151,250 137,522 \$ 6,208,274 \$ 6,208,274	56.70% 56.70% 56.70%	\$ 3,356,358 85,759 77,975 \$ 3,520,091 -50.00%	\$ (1.760.046)
10 11 12	TOTAL  RUCO ADJUSTMENT TO MISCELLANEOUS ADJUSTMENTS		ımn (H))		\$ (1,760,046) (1,905,048) \$ (1,905,048)

### References:

Column (A): Company Response To Staff Data Request 1.78

Column (B): Company Workpapers Column (C): Column (A) X Column (B) Column (D): Sums Of Column (C)

## EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 8 SUPPLEMENTAL EMPLOYEE RETIREMENT PLAN

LINE NO	DESCRIPTION	(A) COMPANY AS FILED		(B)	(C)		AD	(D) RUCO JUSTMENT
	ALLOCATIONS:		2, Adj #3, 3, L 11					outed Total DDR 14-1.a
1	Arizona	\$	1,395,781				\$	(1,395,781)
2	Corporate Direct		54,102					(54,102)
3	Other Jurisdictions		1,041,113					. •
4	System Allocable		866,016					(866,016)
5	Total (Sum Of Lines 1, 2, 3 & 4)	\$	3,357,012				\$	(2,694,668)
	FUNCTIONALIZATION:	PRECE	IBUTION ENTAGE NOTE A	RIBUTION		CATION TOR	AD	RUCO IUSTMENT , Pg 2, Col (H)
6	Other Gas Supply		0.73%	\$ (10,184)		100.00%	\$	(10,184)
7 8	Distribution Customer Accounts		67.99% 30.69%	(949,044) (428,347)		100.00% 100.00%		(949,044) (428,347)
9	Customer Information		0.59%	(8,206)	•	100.00%		(8,206)
10	SUBTOTAL Sum Of Lines 6 Thru 9)		100.00%	(1,395,781)			\$	(1,395,781)
11 12	Administrative & General Direct System Allocable			(D), L 2 & L4 (54,102) (866,016)		100.00% 56.70%		(54,102) (491,031)
13	TOTAL (Sum Of Lines 10, 12 & 13) (See RLM-8, Pg	2, Col (H))					\$	(1,940,914)

## NOTE A

To Determine The Distribution Ratio Of Arizona Direct SERP By Allocating Expenses At The Same Percentage As Labor Loading In SWG's Adjustment No. 3

		SWG ADJ'MT NO.3	BUSTRIBUTION
	Operating Expenses	SWG SCH. C-2	PRECENTAGE
14	Other Gas Supply	\$ 16,522	0.73%
15 16	Distribution Customer Accounts	1,539,648 694,914	67.99% 30.69%
17	Customer Information	13,313	0.59%
18	SUBTOTAL	\$ 2,264,397	100.00%
	Administrative & General		
19	Direct	\$ 24,518	
20	System Allocable	578,837	
21	SUBTOTAL	\$ 603,355	- -
22	TOTAL	\$ 2,867,752	- =

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## OPERATING INCOME ADJUSTMENT NO. 10 NORMALIZATION OF THE UNCOLLECTIBLE EXPENSE

		(A) UNCOLLECTIBLES			(C)			(D)
LINE		COMPANY DATA		MPANY DATA	UNCLTIBLE		F	RUCO
NO.	DESCRIPTION	RUCO D.R. 1.12		& 2004 A. R.	COLUMN			USTMENT
1	2004 Year-End	1,355,278	\$	693,070,359		0.00196		
2	2005 Year-End	1,447,967	Ψ	748,627,816		0.00193		
3	2006 Year-End	2,538,849		895,549,006		0.00283		
4	Three Year Ratio Total (Sum		0.00672					
5	RUCO Adjusted Ratio Uncoll	ectible Expense To Revenu	e - 3-Yr A	Average (Ln 4 / 3 Y	rs)	0.00224		
6	RUCO Adjusted TY Rev. (Sc	h. RLM-7, Col. (C), <b>L</b> n 1 + G	as Cost	s Of \$593,424,664)	\$ 992	2,659,342		
7	RUCO Adjusted Uncollectible	e Expense (Ln 5 X Ln 6)			\$ 2	2,225,077		
8	Company Recorded Uncolled	tible Expense (Per Co. W. F	P.'s)		\$ 2	2,977,729		
9	Difference (Ln 7 - Ln 8)						\$	(752,652)
10	RUCO Adjustment (Line	9) (See RLM-8, Pages 1 & 2	2, Colum	n (K))			\$	(752,652)

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# EXPLANATION OF OPERATING INCOME ADJUSTMENT NO. 11 GAIN ON SALE OF PROPERTY

(A)

LINE NO	DESCRIPTION	RUCO AS ADJUSTED			
1	Gain On Sale Of Property (Per Co. Response To Staff Data Request 1.96)	\$ 418,196	3		
2	Sharing Percentage Between Ratepayers And Shareholders	50.00%			
3	Ratepayers Portion Of The Gain (Line 1 X Line 2)	\$ 209,098	5		
4	Amortization Period	3 Years			
5	Decrease In Test-Year Operating Expenses (Line 3 / Line 4)	\$ (69,699)	<u>)</u>		
6	RUCO Adjustment (Line 5) (See RLM-8, Pages 1 & 2, Column (L)	\$ (69,699)	<u>)</u>		

## EXPLANATION OF OPERATING INCOME ADJUSTMENT INCOME TAX EXPENSE

		(A)	(B)
LINE NO.	DESCRIPTION	REFERENCE	AMOUNT
		The set test to be	 7,,,,,,
	FEDERAL INCOME TAXES:		
1	Operating Income Before Taxes LESS:	Schedule RLM-6, Column (C), Line 18 + Line 16	\$ 96,604,926
2	Arizona State Tax	Line 11	(3,401,069)
3	Interest Expense	Note (A) Line 21	(47,795,091)
4	Federal Taxable Income	Sum Of Lines 1, 2 & 3	\$ 45,408,766
5	Federal Tax Rate	Schedule RLM-1, Page 2, Column (A), Line 10	35.17%
6	Federal Income Tax Expense	Line 4 X line 5	\$ 15,972,492
	STATE INCOME TAXES:		
7	Operating Income Before Taxes LESS:	Line 1	\$ 96,604,926
8	Interest Expense	Note (A) Line 21	(47,795,091)
9	State Taxable Income	Line 7 + Line 8	\$ 48,809,835
10	State Tax Rate	Tax Rate	6.9680%
11	State Income Tax Expense	Line 9 X Line 10	\$ 3,401,069
	TOTAL INCOME TAX EXPENSE:		
12	Federal Income Tax Expense	Line 6	\$ 15,972,492
13	State Income Tax Expense	Line 11	3,401,069
14	South Georgia Amortization	Company Schedule C-1, Sheet 17, Column (C), Line 8 + Line 18	365,253
15	Investment Tax Credit	Company Schedule C-1, Sheet 17, Column (C), Line 19	 (528,352)
16	Total Income Tax Expense Per RUCO	Sum Of Lines 12, 13, 14 & 15	\$ 19,210,462
17	Total Income Tax Expense Per Company Filir	ng (Schedule C-1)	16,092,218
18	RUCO ADJUSTMENT TO INCOME TAX EXPENS	SE (See RLM 7, Page 2, Column (Q)) Line 16 - Line 17	\$ 3,118,244
	NOTE (A):		
	Interest Synchronization:		
19	Adjusted Rate Base (Schedule RLM-2, Column (C	C), Line 10) \$ 1,089,321,967	
20	Weighted Cost Of Debt (Schedule RLM-18, Column (C	,, , , , , , , , , , , , , , , , , , , ,	
21	Interest Expense (Line 19 X Line 20)	\$ 47,795,091	
	, ,		

### **COST OF CAPITAL**

		(A)	(B)	(C)
LINE NO.	DESCRIPTION	CAPITAL RATIO	cost	WEIGHTED COST
1	Long-term Debt	51.00%	7.96%	4.06%
2	Preferred Stock	4.00%	8.20%	0.33%
3	Common Equity	45.00%	9.88%	4.45%
4	TOTAL CAPITAL	100_00%		
5	WEIGHTED COST OF CAPITAL			8.83%

## References:

Column (A): Company Schedule D-1
Column (B): Testimony, WAR
Column (C): Column (A) X Column (B)
Column (C) Line 5: Sum Of Column (C) Lines 1 Thru 3